A
TREATISE
ON
TROPICAL DISEASES;
ON
MILITARY OPERATIONS;
AND ON THE
CLIMATE
OF THE
WEST-INDIES.

BY

BENJAMIN MOSELEY, M.D.

Author of a Treatise on Coffee; Medical Tracts, &c.

PHYSICIAN TO CHELSEA HOSPITAL, MEMBER OF THE COLLEGE
OF PHYSICIANS OF LONDON, OF THE UNIVERSITY OF
LEYDEN, OF THE AMERICAN PHILOSOPHICAL
SOCIETY AT PHILADELPHIA, &c. &c. &c.

FOURTH EDITION, WITH CONSIDERABLE ADDITIONS.

LONDON:

PRINTED BY NICHOLS AND SON,
RED LION PASSAGE, FLEET-STREET,
FOR T. CADELL AND W. DAVIES, IN THE STRAND.

1803.

PREFACE

TO THE

FIRST, SECOND, AND THIRD EDITIONS

THE firſt part of the following treatiſe on the dyſentery again appears with ſome alterations; it was originally publiſhed in the West-Indies, and has often been republiſhed in the islands, and in different places in Europe. But the second and third parts, together with the rest of the present volume, are now first submitted to the world.

The practice I have recommended in the treatment of the dysentery, has not only been approved in the West-Indies, but is adopted in many parts of Europe, and the East-Indies,

The principal seat of the last war being in America, the belligerent powers had many troops in all the West-Indian islands: where the French and Spaniards, as

---

* The first edition was published on the 30th of November, 1787; the second edition on the 4th of April, 1789; and the third edition on the 30th of December, 1792.

well as the English, had great part of their forces exterminated by the bloody flux.

It was chiefly owing to the ravages of this disease in the French armies, that the English islands were not invaded earlier; and it was also owing to the same cause, that the English forces were, in many instances, unable to retaliate on their enemies.

Notwithstanding the method of treating this severe calamity successfully, by the means of sudorific medicines, was not published until the war was considerably advanced, and had a multitude of prejudices to contend against; before its conclusion, many French, American, and English army physicians, had intirely laid aside the usual, but useless reliance, on purgatives, opiates, and astringents; and followed this practice with the utmost success; under all the disadvantages to which the military are subject, from the scarcity of necessaries, and bedding.

I have not increased the volume of the materia medica by any new medicine or composition, in the cure of this disease; nor can the articles I recommend be exceptionable, either on account of their bulk, or complexity: for they occupy but a small space in a surgeon's chest, and require but little time, and no trouble in preparing them.—I have aimed at the same œconomy of space and time, in every other disease, of which I have treated.

It is a custom of very ancient prescription in physic, for authors, when advancing any new doctrine, to select their successful and remarkable cases, to support their principles; and some have been so intent upon this object, as to stamp their labours, even with doubtful marks of authenticity, rather than with none,—to obviate suspicion.

From the frequency of this custom, though I have not implicitly followed it, I suppose it has been found useful by those who have. But whatever private advantages may have been acquired, the custom seems to me of less utility to mankind, than if such writers had signalized their failings, and placed beacons on the rocks where the wrecks were made.

A few only have dared to imitate the candour of HIPPOCRATES and SYDENHAM, in this:—in that, every dabbler in physic decorates his volume, and illumines those pages which, he fondly hopes, will be the guide for posterity.

'Tis true that it requires great reputation, or an extraordinary good opinion of the world, to confess to it our errors; and to offer mankind instruction by those unpleasing lessons which result from human frailty. Therefore, an obscure individual prudently weighs the danger of recounting his mistakes; leaves honest confessions to men at the summit of human wisdom, and seizes his proselytes, by asserting the infallibility of ignorance.

There is another transgression against the laws of tyrant custom, which it will be found that I have made, in several parts of the following work;—where, instead of drawing out my materials into long dissertations, I have often condensed the experience of many years into a few short paragraphs, and have trusted its support only on my own assertion.

The daily publication of medical books, and promulgation of new systems in physic, lead to a supposition that either physic is not a science of books, and capable of being imparted through the medium of words; or that medical writers have asserted a great deal more than they have been able to maintain.

The raising theories in opposition, one against another, and not attending to diseases and the improvement of practice, has been the employment of many medical people; and they have accordingly had the success to convince the world, that they understood better how to talk of diseases, than how to cure them.

Diseases unfortunately are not to be conjured down with words;—if they were, the schools of MARCELLUS and SAMONICUS had starved the followers of HIPPOCRATES.

Yet it must be confessed, that in the writings of many of the modern theorists, there are excellent discriminations, and profound pathological reasoning on diseases; but when we come to the curative part, we clearly see the truth of SYDENHAM's remark, that, " speculation and practice seldom meet in the same person:" and the admiration we bestow on the eloquence and force, which they employ in chastising the practice of others, vanishes at the sight of their own prescriptions.

Every person knows, not only the sage precepts founded on practice, but the accurate descriptions, drawn from nature, of HIPPOCRATES; and what opposition his doctrine experienced from ASCLEPIADES and THEMISON; and how often its place has been usurped by the confused and unnatural jargon of sectaries and sophists. Every person also knows, that prior to SYDENHAM, though there had been many attempts at new theory and reformation, after the restoration of learning, yet from GALEN's time there was but little improvement in the practical part of physic: and if we except the strange conceptions of PARACELSUS and HELMONT, there was scarcely any essential alteration in it.

When we look back on that interval of fifteen hundred years, and survey the huge masses of literature which were brought forth in it,—as at the remains of barbaric monuments, though we cannot admire the beauty of the fabric, we must wonder at the labour and patience of the compilers.

It is as difficult to ascertain when heresy and sophistry will cease in physic, as in religion. Within these few years, when the great NEWTON lighted up the world, it was the fashion of physic to talk learnedly on *Carteſian* errors; to purge and vomit mathematically; to be able to account for all things geometrically; and to have a perfect acquaintance with every thing but—Nature.

If each of the laborious writers of that, and former periods, instead of deſcanting on every disease, had taught us effectually to cure one;—if instead of making books they had made observations on diseases, even the *Gout* might have submitted;—the *Insane Mind* might have been restored, and the cause explained, how that derangement of the intellectual, exists without impairing the corporal faculties:—the *Tetanus* would perhaps no longer have perplexed us, nor wherefore that terrible disease so partially and violently invades the body, without disturbing the mental and vital functions.

But the misfortune to which the science of physic has been, and must ever be subject, is, that they who will write most, must be, in general, least qualified; for large books cannot be written in the hurry of extensive practice; and nothing but extensive practice can cure a man of prejudices, and qualify him to write at all.

Besides, there is more labour in writing with due care and caution, in this important science, when a man has furnished himself with materials, than many have fortitude, or perhaps health to encounter. This has no doubt deprived the world of many great discoveries; and had nearly kept from it the invaluable treasure bequeathed by SYDENHAM; who never sat down to write in the latter part of his life, but he was instantly attacked by that excruciating disorder the gout; which at length brought on other diseases that terminated his existence.

Yet, if honest zeal for the welfare of mankind, and a desire to justify their good opinion, could alienate self-interest from its attachment, and stimulate every person who has had sufficient experience, and who might find leisure also to undertake the task, we should probably have had many SYDENHAMS among us. But fame, I fear, acts feebly upon hearts, to whose ventricles the sacred appetite for gold has long been fixed and riveted.

Thus, instead of men of great experience, and mature judgment, the world must expect to see young dictators come forward, prompted by genius or necessity, to drive the nail of physic, and prescribe its irrevocable laws:—and thus, diseases are created, and cures performed, which have only had existence, like BERKELEY's matter, "because they were perceived by the ideas."

As the result of experience is the only useful knowledge in physic, every interesting fact, founded thereon, should be rescued from oblivion; and they who have contributed their mite to form collections of this sort, deserve much more of mankind than many who have written volumes of insipid imitation, or fine-spun theory; the common sense of which, might generally be described on the margin of their works.

The learned president of our London college of physicians, Sir George BAKER, has judiciously revived a species of medical literature, that has been too much neglected. Encouraged by his example, a genuine repository may be formed, that will add reputation to the professors, and sustain the dignity of the profession. But while novelty is sought for, and every trivial thing avoided, care should be taken that no fabrication, from the mutilated remnants of our ancestors, be admitted. We lament to view their venerable garments cut up into the fashion of the day, and the wearers, claiming them as their own, pass them on the world, as if they had never been seen before.

Great as the improvement has been in anatomy, and great as the masters of that art are, in France and England,—while they triumph over their ancestors, they will but prepare triumphs for posterity; if that part thereof which applies to the discovery, and consequently to the cure of diseases, be neglected for curiosity; should comparative anatomy have nothing profounder to relate than that fishes have the sense of hearing; that dogs owe the acuteness of their smell to the structure of their noses; and that wings would have been an useless appendage to man;—should physiologists become virtuosi; should BONET and MORGAGNI be thrown upon the shelf, and the columns conceded to

> "an alligator stuff'd, and other skins of ill-shaped
> fishes—"

In such a relapse of science, if professors succeed, they must owe their consequence to the disgrace of their art;—the admiration of the vulgar.

The science of physic has derived less practical benefit from physiology, since the discovery of the circulation of the blood, and the distribution of the chyle, than is generally imagined. GASSENDUS would have been disappointed in his hopes, had he lived until these days.———

For much remains to be done: and though the great HARVEY, the ingenuous ASELLIUS, and the fortunate PECQUET, made such grand contributions to the ancient stores, with the late discoveries that have been added, and the advantages which the anatomic art has received from injections, and glasses; there are still many tenets retained in the code of physiology, which stand but on apocryphal authority. The field is not to be abandoned to *Amateurs* alone, to revive the legitimate spirit of inquiry, that animated the genius of ARISTOTLE, FABRICIUS, and HARVEY.

Modern surgery has eminently advanced itself as an important branch of the healing art. It was indeed the opinion of Mr. Charles BERNARD, in the beginning of the present century, "that there were more useful operations among the ancients, omitted or discontinued by us, than we have invented;" which probably may be true even at this day. He might have extended the same reflection to medicine. But the modern advancement of surgery, exclusive of the assistance which the operative part has acquired by the excellence of our instruments, and the contributing branches of mechanics, arises rather from taking away, than from adding, to the practice of the ancients, and from simplifying their methods; many of which were coarse, violent, and barbarous. We do not, at this day, like ancient surgeons, hang people up by their feet to beams, nor rack them on Procrustean beds, to reduce dislocations, without any regard to anatomy.

Chemistry has opened abundant treasures for the purpose of medicine. The materia medica has regularly received addition, and alteration, as that science has advanced; and has scarcely retained any thing but bark and opium, which the vegetable world can call its own.

The utility of botany in physic, appears to correspond in an inverse ratio, with the labour that has been bestowed on it.—Here, as often in the moral world, beauty is preferred to virtue.

From natural philosophy great medical advantages have been obtained. By this, we have learned to imitate, to augment, to diminish, and to apply many of the operations of nature, and to combine such of her powers, as answer our purposes better in a mixed, than in a simple state. We turn hopeless from the toils of anatomy, to this sublime revelation, for a solution of the phænomena of the nerves, which at present confound us.

In this enlightened age, when almost every person who can read, makes pretension to some science or other; when ignorance is no longer fashion, nor emulation in arts disgraceful,—that labour, which in former ages of the world would have crowned an author with immortality, now, can hardly secure his fame, the duration of an ephemeron.—Yet he who ventures fairly on that "sea of troubles," which none but authors know, for promoting the welfare of society, ought not to repine; his conscious motives should bear him up,—for to have lived to such a purpose, however short the existence, may be remembered without that bitter soliloquy,

"Few and evil have been my days."

Whatever may be the fate of this publication, I have the satisfaction of knowing that it contains a faithful relation of facts, founded on my own experience; and as far as concerns the West-Indies, the result of twelve years extensive practice there. However, I should not have troubled the world with it, if I could not urge in my defence, that I never could cure the diseases to which it extends, by the books that have been already written on the same subjects by others.

Under this conviction I have presumed to offer this volume, as a specimen of my practice; and of what I intend farther to publish, on diseases in Tropical countries.

If in the course of this work it shall be found that I have mistrusted the skill or accuracy of others, it is because every day's observation convinces me, that there are not so many wonders in physic, nor so many extraordinary diseases incident to mankind, naturally, as have been asserted; and that there are symptoms described, as pathognomonic of more, which are but the issue of improper treatment. These evils I attribute to the poison of medical literature, raised on theory, uncorrected by experience; where men, following one another like Cranes, storm human infirmities mechanically :—before whom, Nature and the disease, like a fortification assailed by mortal engines calculated by rule for its destruction, often fall together, and are buried in confusion, under the same ruins.

ADVERTISEMENT

TO

THE FOURTH EDITION.

IN this publication, augmented by the addition of an hundred pages; and in the fifth edition of my TREATISE ON COFFEE; and in the second edition of my MEDICAL TRACTS, I have fulfilled what I promised, in the preface to the first edition of my work on TROPICAL DISEASES—the conditions on which I made that promise having been performed, in the most flattering manner to me, by the reception my labours have met with.

From the title of this work it might be inferred, that my doctrines were confined to intratropical countries; but that is not the case. My dissertation on the climate of the West-Indies, embraces that of every other region; and the principal diseases on which I have written, are prevailing epidemics, or those of the most dangerous kind, in every climate:—and some of them, the ruinous attendants on camps, fleets, and armies,—the scourge of wars, in every part of the world.

Among many articles of new matter, in this edition, I have given some of the result of nearly thirty years observations, on our near neighbour,—the MOON; respecting her influence on the inhabitants of this terraqueous globe.

Whether she possesses mountains, volcanos, or seas, is no part of my subject. Divested of prejudice and superstition, I have proceeded on grounds which admit of no controversy; as the facts I have related, carry with them their own proof, or detection.

B. M.

Chelsea Hospital,
15th of October, 1803.

UTTERPARAH PUBLIC LIBRARY 1859

ON THE CLIMATE OF THE WEST-INDIES.

TO those who are impelled by necessity, or induced by interest, to visit the torrid zone, and relinquish the blessings which flow from exercise in the delightful climates of the earth, in temperate regions; — to those who exchange their native countries, which yield the free and unbounded enjoyments of spontaneous health, for such as no care, nor art, can ever make agreeable; — some cautions may be necessary — some precepts useful.

That health is retainable by Europeans in hot climates, is well known and experienced. But when the numerous and expensive requisites have been obtained, the rigid restrictions, and self-

self-denials, which are still necessary to keep the body and soul in unison, render the possession of health so often a matter of neglect, that human flesh, dissatisfied to exist in the insipid security of temperance, resolutely compounds for a short life, or impaired faculties, and seizes the present hour of pleasure, and dangerous enjoyment.

In countries between the tropics, the heat is nearly uniform; and seldom has been known to vary through the year on any given spot, either by day or night, sixteen degrees *.—It is, at a medium, on the coast, and on plains not much elevated above the level of the sea, at about eighty degrees of *Fahrenheit's*, or twenty-four degrees of *Reaumur's*, thermometer †.

The greatest heat, observable on the thermometer, in the shade, in tropical countries, is between one and two o'clock in the afternoon; at which time, on the plains, and sea-coast, the mercury seldom ascends above 90°, nor descends below 80°, through the year. The diminution of heat, at night, ranges from five to ten degrees, but seldom below 70°, even in the coolest months.

---

* *Fahrenheit's* thermometer is what is every where meant in this publication, unless expressed to the contrary; and the observations on it, made in a North shade, with the instrument placed at the distance of six, eight, ten, or twelve feet, from the earth; avoiding, as much as possible, any reflected heat.

† At Charles-Town, in South Carolina, N. Lat. 32° 45′, where the medium heat is 66, there is sometimes a variation of 83 degrees in the course of the year. The mercury in the thermometer has sunk to 18, and has risen to 101.

The greatest heat shewn by the thermometer in the open sun, is, about three o'clock in the afternoon; when the mercury rises several degrees higher than it does, placed in the sun, at any other time of the day. Here it frequently mounts to 120°, 130°, and much higher, according to the clearness of sky, and as the earth, or situation, is more or less reflecting. To these degrees of heat, negroes, in various labour, and in the cultivation of the sugar cane, are often exposed *.

---

* It has been observed in these, and more equatorial, regions, that, though the barometer is useless in indicating the variations of the weather, it exhibits a phænomenon not correctly ascertained in temperate climates; which is, that the mercury has two diurnal motions, of ascent and descent, of nearly a line, corresponding with the course of the sun; ascending as the sun approaches the zenith and nadir, and descending as the sun deviates from these points. It remains stationary, at its highest and lowest degree, for some hours.

During the six months of the year, when the sun has passed the line on his annual return to either tropic, that season is called the Summer season; — so from about the twentieth of March, when the sun enters *Aries* and passes the equator into the Northern hemisphere, to visit the tropic of *Cancer*, until about the twenty-third of September, when he enters *Libra* and repasses it to the Southern hemisphere, to re-visit the tropic of *Capricorn*, it is considered the Summer season in our West-Indies; and the remainder of the year, the Winter.

This is the Winter and the Summer of countries, where, in general, there is not more than six degrees of difference of heat, between the coldest season in the month of January, and the hottest season in the month of August; where the heat is always excessive on the whole, and where the sun rises and sets all the year round at nearly the same hours, and where there is but little crepusculum, or twilight.

But though the sun imparts his influence almost equally within that tropic, for which he has passed the equator; yet the parallels under his vertical rays, doubtless, receive the greatest portion of heat; but the difference is inconsiderable, and the inhabitants on the same side as the sun find generally the same oppressive uniformity.

This is to be understood of the climate at large, as unconnected, and uninfluenced by local circumstances, as mountains, valleys, woods, particular soil, situation, or any other cause favouring the aggregation, or dissipation, of heat, or cold *.

Upon the mountains between the tropics, as upon the mountains in Europe, the air is cold in proportion to their height. In some of the islands there are mountains which afford agreeable situations; and on the continent, there are gradations of every degree of the habitable globe.

---

* BOSMAN says, " near the island of *Annaboa* upon the " coast of Guinea, directly under the Line, in the month of " September, when the sun is vertical, that he could " scarcely bear the cold. The reason of this cold is," he says, " that there is always, at this time of the year, " thick weather, with stiff gales of wind, which prevent " their feeling the heat of the sun."

Almost a similar cause operates at *Lima* to render that city far more cool and pleasant than *Carthagena*, though it is nearly the same distance from the equator: which is, that the mists, that prevail at *Lima* during considerable part of the year, soften the rigour of the sun's rays, and the winds blowing, at the same time, from the frozen regions of the south, cool and refresh the atmosphere.

Under the equatorial line on the continent of South America, in the province of Quito, the summits of the mountains of *Pinchinca, Cotopaxi*, and several others of the Cordelleras, are constantly covered with ice and snow. The summit of *Cotopaxi* is computed to be 3126 toises, or 6643 English yards above the level of the sea*; which is nearly 1423 yards higher than *Mont Blanc*†, in Savoy.

In the conquest of *Chili*, many of the Spaniards were frozen to death sitting on their mules, in crossing the mountains that divide *Chili* and *Peru*.

Acosta says, his friend the general *Jerome Costilla* of *Cusco*, lost several of his toes in passing over the desart of *Chili*, in going from *Peru*. They were so perished by the severity of the air, that when he came to look on them, they were dead; and fell off without any pain, "even as a rotten apple falleth from the tree."

---

* Ulloa, Voyage to South America. Book VI. ch. 7.

† The summit of *Mont Blanc*, the highest of the Alps, is 15,662 English feet above the level of the Mediterranean sea. *Mont Cenis*, the highest of the Alps crossed in the route from Turin to Lyons, is 6261 English feet above the level of the Mediterranean sea.—I found the thermometer here, *à la Poste*, at 40° on the 23d of October, 1787, at ten o'clock in the forenoon. The sun shone, and it snowed slightly.

He says, this general formerly conducted a large army over these mountains; and that he left a considerable number of the soldiers dead there, who were killed by the baleful cold winds, that constantly blow in those regions. On the general's return from his expedition, he found the dead bodies lying scattered about; but quite entire; and without scent or putrefaction. Near to the place where the dead bodies were, he found a boy, who had survived his miserable companions, that remained behind, unable to proceed on the expedition. This boy had existed in a cave skreened from the winds; and fed on the flesh of the horses, that perished there with the troops.

Acosta relates a curious story, of a courageous Dominican friar; who, in crossing the same barren desart, was benighted. In which distress, he gathered together a sufficient number of the dead bodies, to serve as a rampart against the wind, and ſlept under their shelter.

Acosta (anno 1580) crossed these mountains himself, at the passage of *Pariacaca*, in *Peru*. When he arrived at the top, he says, "I was

" seized with so mortal and strange a pang,
" with straining and vomiting, that I thought
" to have cast up my very heart: for having
" vomited up meat, phlegm, and choler, both
" yellow and green, in the end I cast up blood."

He says many have lost their lives in this manner; and that not only the passage of *Pariacaca,* but also all the ridge of mountains, which runs above five hundred leagues, through *Peru* and *Chili,* produce the same effects; but in no place so violently as in *Pariacaca.*

He says, the air over these mountains destroys vegètation. The grass is often burnt, and black, with it. " That it is not so sensible, as piercing.
" It quencheth the vital heat; yet it doth not
" corrupt, or give any putrefaction to dead bo-
" dies. The best remedy against its influence
" is, for people to stop their noses, their ears,
" and their mouths, as much as may be; and to
" cover themselves with clothes; especially the
" stomach; for that the air is so subtile and
" piercing, that not only men feel this altera-
" tion, but also beasts, that sometimes stay
" there; as no spur, or beating, can make them
" go forward *."

---

* Lib. III. Cap. 9.

The refreshing and unremitting Eastern breezes, which alone could render the West-Indies habitable, are influenced in their course by the direction of the sun *. When the sun is in his progress to the Northern tropic, the breeze obliquely bends towards his tract, and blows after him from the South of the East. When the sun is on his return to the Southern tropic, the breeze is inclined after him that way, and blows from the North of the Eastern point; so that the whole range of the breezes, or trade-winds, comprizes about thirty degrees of South and North latitude. Sometimes, when the sun is on the South of the equator, the Winter's winds from the Northern continent, extend into the latitudes of the Eastern breezes, and overpower them with great violence. Hail is sometimes brought with those winds, but never snow,

The Northern tropical Winter and Summer may be sub-divided into four periods: the first beginning in April or May, with the vernal rains, which commonly continue six or eight weeks. Then the second advances, which is the hottest and driest season of the year; for the

---

* The breezes set in gently in a morning, commonly about nine o'clock; increase as the sun rises to the meridian, and decline in the evening about six or seven o'clock.

the sun being, on, or nearly, the twenty-first of June, at the tropic of Cancer, has finished his farthest Northern declination. The third commences in September, with the autumnal rains, which are heavy and violent; and the fourth in December, after the autumnal rains have ceased. This is the coolest and pleasantest season of the year, the sun being, about the twenty-first of December, at the tropic of Capricorn, his greatest Southern distance. The weather is now generally dry and settled, accompanied with night winds from the land, in all the countries whose mountains are sufficiently lofty to cool the air; with frequent North winds in the day, from the continent of North America.

Although there is no regularity in the setting in, or duration, of the vernal and autumnal rains, yet there are seldom any rains that are violent or lasting, from November until April. The Spring periodical rains, most commonly, in the islands, fall in May, though sometimes not until June; and the autumnal rains sometimes commence in August, though generally in October; but the time for the greatest rains, and the greatest heat, on the continent, as well as in the islands, is between the months of April and November; and the greatest degree of dryness and coolness is during the months of December, January, February, and March. This is the season when people, who can choose their opportunity, should arrive in the West-Indies; and this is the season when military operations should be carried on there; and also when ships of war, or troops, should be sent out to relieve, or supply, any station or garrison, that the men might be accustomed to the climate, before the time of the greatest heat advancing, and the setting in of the rains, and unhealthful season *.

The voyage should be undertaken so as not only to accord with this great object, but also to avoid being on the sea between the tropics in the Western world, in the months of August, September, and October; for most of the hurricanes that have afflicted this part of the globe, have happened in the Autumnal season: and therefore, these are properly called the hurricane months.

Hurricanes generally set in from the North, or North-west, from the great rarefaction of

---

* Rain, the scourge of health in tropical countries, is the salvation of it in others. Rome would soon be depopulated but for the rains, which cleanse the streets, purify the air, and dilute and wash away the mephitic vapour that issues from the earth, and collects upon its surface, in the adjacent Campania, from a long continuance of dry and hot weather.

the air within the tropic of Cancer, by the sun's Northern declination at this season of the year; from which, an influx of dense air rushes in from the polar regions, and the great Western continent (the earth being susceptible of much greater degrees of cold and heat than the ocean, which is preserved in a more uniform temperature, from being incapable, like all transparent bodies, of deriving heat from solar light), and a great conflict is raised; the wind varying, with furious blasts, from every point of the compass, until an equilibrium is restored, and nature composed, by the eastern winds regaining their course.

The ruin and desolation accompanying an hurricane, cannot be described. Like fire, its resistless force consumes every thing in its track, in the most terrible and rapid manner. It is generally preceded by an awful stillness of the elements, and a closeness, and mistiness, in the atmosphere, which makes the sun appear red, and the stars larger. But a dreadful reverse succeeding: — the sky is suddenly over-cast, and wild. The sea rises at once from a profound calm into mountains. The wind rages and roars like the noise of cannon. The rain descends in deluges. A dismal obscurity envelopes the earth with darkness. The superior regions appear rent, with lightning and thunder. The earth often does, and always seems to, tremble. Terror and consternation distract all nature. Birds are carried from the woods into the ocean; and those, whose element is the sea, seek for refuge on the land. The frightened animals in the fields assemble together, and are almost suffocated by the impetuosity of the wind, in searching for shelter; which, when found, serves only for their destruction. The roofs of houses are carried to vast distances from their walls, which are beat to the ground, burying their inhabitants under them. Large trees are torn up by the roots, and huge branches shivered off, and driven through the air in every direction, with immense velocity. Every tree and shrub, that withstands the shock, is stripped of its boughs and foliage. Plants and grass are laid flat on the earth. Luxuriant spring is changed in a moment to dreary winter. — This direful tragedy ended, when it happens in a town, the devastation is surveyed with accumulated horror. The harbour is covered with wrecks of boats and vessels: and the shore has not a vestige of its former state remaining. Mounds of rubbish and rafters, in one place; heaps of earth, and trunks of trees, in another; deep gullies from torrents of water; and the dead and dying bodies of men, women, and children, half buried, and scattered about, where streets were but a few hours before, present the miserable survivors with a shocking conclusion of a spectacle, generally followed by famine: and when accompanied with an earthquake, by mortal diseases.

Such were the hurricanes, that left melancholy traces in many of the West-Indian islands, in the month of October, 1780: and particularly in Jamaica; where, on the third day of that month, the West end of the island was laid waste. Vast districts of finely cultivated land were made a desert, and several villages destroyed.

But the part of Jamaica which suffered most, was the parish of Westmoreland. Here, in addition to the preceding calamities, the sea rose in a column, appearing at a distance like a dark cloud, and overwhelmed the little seaport town of *Savannah-la-Mer*.

While many people were viewing the approach of this phænomenon from their windows, ignorant of what it was, it advanced suddenly upon them, drowned them in their upper rooms, into which they had retreated as the water rose, and washed away their houses and them together.

The sea overflowed the land above half a mile beyond its usual bounds; and carried several large ships with it. Two of which, when the water subsided, were left nearly a quarter of a mile on the land *.

This hurricane commenced from the S. E. about twelve o'clock at noon, and continued until eight in the evening. The sea rose between four and eight o'clock; and subsided at ten, with an earthquake. Nearly three hundred people perished †.

When Europeans embark for the West-Indian islands, they must bid farewell to the sports of the field. There are neither hounds, nor hares, nor stags, nor foxes; and it is well there are not; for the enthusiasm which those

---

* The Henry, Captain *Richardson*; and the Princess Royal, Captain *Ruthven*. These ships were each of them above 400 tons.

† Hurricanes have visited the West-Indies periodically, and in some islands have continued annually, or nearly so, for a succession of years, and then have disappeared. The middle of the last century was distinguished by a similar succession of West-Indian disasters, to that which has lately happened there.

sports inspire is not to be curbed by craggy rocks, or precipices; or by grave lessons, or fatal examples.

Horse-racing has been introduced into some of the islands; and as a species of gaming, to the inconvenience of some, and to the advantage of others. But though it may contribute to improve the breed of that useful animal, the horse, in the colonies, — climate, which will not permit such violent exertions, forbids much pleasure from it, as an animated amusement.

It is fortunate for those who have been accustomed to country sports, that there are but few inducements to allure them here; but there are some, to which many have paid the tribute of their lives.

The *Snipe* is found here in great numbers; but this universal inhabitant of the earth meets with no more quarter here than in Europe; notwithstanding the danger which is often experienced, from fevers acquired by pursuing him through the wet and marshy places where he resorts; which ought, in hot climates at least, to be his sanctuary.

Had the present race of Europeans been as superstitious about their *bones* as the *Patriarchs*, the *Greeks*, and the *Romans*, were, the tropical colonies had never existed as countries of wealth and commerce.

The hardy followers of COLUMBUS and GAMA * (for none but the strongest spirits dare to leave their homes for new enterprize) have had no terrors of mind respecting their bodies; but adventured like heroes, with hearts, not like VIRGIL's hero's, to be terrified at a storm †. Regardless of their fate, they boldly undertook, and fearlessly embarked in the severest labours, surrounded with dangers, and planted and became the patriarchs of colonies. They bid adieu to their countries, which perhaps had depressed their genius, or persecuted them for debt, or religion; and scorned, as they could not revisit their native homes in life, to enter-tain the hopes of returning to them, like negroes, after death*. Such were the first settlers of the colonies.

---

* The two first navigators to the *West* and *East-Indies*; the former was sent out from Spain by *Ferdinand* and *Isabella*, in August 1492; and the latter from Portugal, by *Emanuel*, in July 1497.

† Extemplo Æneæ solvuntur frigore membra.
Ingemit, et duplices tendens ad sidera palmas,
Talia voce refert: O terque quaterque beati,
Queis ante ora patrum, Trojæ sub mœnibus altis,
Contigit oppetere! ÆNEID. Lib. I. Ver. 96.

Great as the mortality has been to accomplish the present flourishing state of the sugar colonies, and great as the expence of human lives must be to maintain them, their commerce has contributed to raise the nations, to which they belong, to a condition of riches and grandeur, that European industry, without them, could never have attained.

In voyages, *Sea-sickness,* though it continues, in general, only for the first day or two, is extremely harrassing to some people, at intervals; especially on any increased motion of the vessel.

---

* Some negroes, from particular districts of Africa, believe in Metempsychosis; and imagine, when they die, they shall return to their own country. These negroes often hang, or choak themselves, in case of discontent, when they are first removed to the colonies. A Frenchman, in the island of *Martinique,* found out a remedy against this sort of suicide, by which he prevented those losses, others often sustain, from purchasing these people. "Pour les empêcher "d'attenter à leur vie, il falloit, quand on les châtioit, les "punir très sévèrement, parce qu' alors ils n'oseroient aller "dans leur pays, et s'y montrer, avec les marques des "coups de fouet qu'ils auroient reçus."

CHANVALON, Voyage à la Martinique, p. 63.

Sometimes, by long continuance, it causes fever, head-ach, quick pulse, thirst, white tongue, and a total deprivation of the retention of the stomach: evils which are always difficult to remove, and frequently terminate only with the voyage.

In my voyage to the West-Indies, I was so reduced by Sea-sickness that I could scarcely walk on my arrival in Jamaica. I experienced the same distress in my voyage from America to England.

This indisposition is considerably alleviated by a small tea-spoonful of *Æther*, taken now and then, in a glass of water; and applying some of it to the temples and nostrils.

The ancient writers recommend acid fruits, bread and vegetables soaked in vinegar, after the stomach has been cleansed by vomiting; but not to attempt to suppress the vomiting until that end is obtained.

An old remedy for Sea-sickness, and a very common one among sailors, is a draught or two of sea-water; which, though a disgusting medicine, at such a time, yet where the first passages are foul and loaded, generally produces the desired effect, when the perturbation it occasions, ceases.

The famous SCHOLA SALERNITANA advises, by way of prevention, sea-water mixed with wine *. A composition not likely to recommend itself to delicate palates.

Costiveness, a common inconvenience at sea, ought to be removed by some mild aperient; as castor-oil, salts, manna, cream of tartar, magnesia, or pills composed of purgative ingredients.

When the warm latitudes are reached, it becomes every person to prepare his body, by temperance, for the unavoidable change it must undergo: and to people of a gross habit, and of a strong and full constitution, a mild purge or two, or frequently diluting with a weak solution of cream of tartar in water, if not bleeding, is necessary. The neglect of these precautions, occasions violent perspirations, troublesome heats, and eruptions.

Head-achs, without fever, from the rarefaction of the blood straining the tender vessels

---

* Nausea non poterit hæc quemquam vexare marina,
Undam cum vino mixtam, qui sumpserit ante.

of the brain, frequently attack people, on first entering hot climates, at sea, as well as on shore. These head-achs are often attended with giddiness, and sickness of the stomach; and also with great distress, unless the rays of light are excluded, which, by irritating the optic nerves, aggravate the complaint, and excite other disagreeable sensations. The cure requires only bleeding, putting the patient's feet now and then in warm water, and keeping him in a dark place. A purge may be necessary, if these operations do not relieve; and if heat or costiveness accompany the disorder.

On first arriving in the West-Indies, though the use of the necessaries of life, and the moderate gratification of natural desires, are by no means interdicted, yet every excess is dangerous; and temperance in all things is necessary to be observed by men, women, and children.

For youth, abstemiousness for a while, is the best security against illness.

In regard to the article of dress, new-comers cannot do better than follow the present custom of the residents on the islands: their clothes should be light, made easy, and every way free from confinement. Formerly the inhabitants of the West-Indies wore heavy European garments, covered with lace. The inconvenience attending that custom induced them to an opposite extreme; and here they found that wearing linen, cotton, or silk coats, though agreeable enough in the sun, and in the day-time, was not a sufficient defence against any sudden change of weather, or the night air. A thin cloth coat, therefore, and every other part of the dress as light as possible, is now worn by people in health.

For women, the light summer-dress of Europe is proper.

Most people, soon after their arrival, are attacked with what is called the *Prickly Heat.* This is an eruption of small red pimples, unattended with any fever, which breaks out in different parts of the body, particularly where the parts are kept the hottest by the clothes, or where there is the greatest irritation, and friction. It causes such intolerable itching, or heat, and pricking in the skin, that human resolution cannot refrain from scratching, until the skin is, sometimes, excoriated. Many people have it every year, more or less, during the hottest months. It generally goes off in a few weeks, leaving the cuticle scurfy, which falls off in small white scales. Sometimes it continues very obstinate, and where people live heated by intemperance, or have any serpiginous humour in their habit, it fixes it on the surface of the body, in troublesome ringworms.

There is great danger in repelling the Prickly Heat; therefore cold bathing, and washing the body with cold water, at the time it is out, is always to be avoided. A gentleman, a native of the country, bathed in the Spanish-Town river, in Jamaica, in the month of July, 1779, with the Prickly Heat on him; which struck in by it, and caused a tedious fever, with an affection of the brain; from which he recovered, but his mind was for a long time afterwards impaired, by a stupor and despondency.

When the Prickly Heat is very troublesome, abstemiousness, with a cooling regimen, will soon remove it.

HILLARY says, the Prickly Heat "is the Ἱδρωα of the Greeks, the *Essera* of the Arabians, and the *Sudamina* of the Romans." But whatever resemblance it may have to the Ἱδρωα, or *Sudamina*, it has none whatever to the *Essere;* which is an entirely different species of eruption, from the others, as described by the Arabians *, but unnoticed by the Greek and Roman writers; and what we suppose to be the *Nettle-rash.* Indeed I cannot see any resemblance the Tropical Prickly Heat has to the Ἱδρῶα of the Greeks, or to the *Sudamina,* or *Papulæ Sudoris* of the Romans. These eruptions are classed among the diseases of summer. GALEN terms them exanthematous; and they are generally described to be acrid, red pustules, containing humour, causing great heat and itching, and ulcerating the skin.

CLEGHORN has made a proper distinction between the *Sudamina* and *Essere*; but says the *Minorca* Rash, or Prickly Heat, is the same eruption as the *Sudamina,* or Ἱδρῶα; which from the climate I should think very probable, although his description of it does not correspond exactly with that which Celsus[*], Galen[†], and Actuarius[‡], have given of the *Papulæ*, or *Sudamina*[§].

---

* *Essere* est pustula parva lata sicut vesicæ, et ad aliquantulam tendens rubedinem et pruritum faciens, et angustiam eveniens subito secundum plurimum. Et accidit quandoque ut currat ab ea humiditas; et fortasse est sanguinea. Et secundum plurimum sit vehemens in nocte, et ejus angustia fit in ea vehementior, et ejus tristitia, &c. Et quum *Essere* invadit locum amplum, tunc si non fiat phlebotomia, timetur Febris Tertiana.

AVICENN. lib. IV. fen. 3. tract. 1. cap. 13. Vol. II.

Bontius has accurately described the Prickly Heat of *Java*, and says, the eruptions are the same that Celsus calls *Papulæ*, Pliny *Sudamina*, and the people of Holland *Rootvont*;—but they certainly are not.

[*] Lib. V. cap. 28.

[†] Comment. III. in Aphor. Hipp. 21. Sect. 3.

[‡] Aliquibus et quales Sudores, Ἱδρῶα, et nostris *Sudamina*, inde nuncupantur, erumpunt, nec quicquam mali portendunt, sed e materia ad cutem ruente gignuntur. Producit ea salsus et mordacis qualitatis particeps humor, ac pungunt sensumque vellicant et discuti desiderant varios pruritus excitantia. Horum quædam quum scalpuntur, sanguine manant: alia subcandidum vel leviter pallidum humorem expuunt, ut inde vigentem succum colligere liceat. Nonnulla demum in scabiosos affectus commigrant, et exulcerationes exanthematis succedunt. Actuarii Method. Med. Lib. I. cap. 23.

[§] Vogel, in Cullen's Synopsis Nosol. defines the *Hydroa*, *Boa*, or *Sudamina*, "Pustulæ *milii magnitudine*, *aquosæ*, "*sine rubore et ullo dolore*, ex sudoribus repente sparsim toto "corpore emergentes."—This definition is by no means descriptive of what the Greek and Roman writers called *Hydroa* and *Sudamina*. It is not descriptive of what we call the *Prickly Heat*. Pliny, Lib. XXVI. cap. 11. says, "Boa, "id est, *rubentes Papulæ*."

Besides the Prickly Heat, there are, in the West-Indies, vesicular and exanthematous eruptions and efflorescences, to which new-comers, and others, are sometimes subject in the hottest months; which resemble the Ἱδρωα, *Papulæ*, *Sudamina*, *Essere*, and what HIPPOCRATES calls Φλυκταιναι, the eruptive produce of Summer in temperate climates.

New-comers are often greatly distressed when travelling, or otherwise exposed to the sun, if any part of their face or neck should be unsheltered by their hat, or their hands by their gloves. Such parts are subject to be painfully inflamed, or blistered, by the scorching solar rays.

There is a race of visitors also which gives some uneasiness to new-comers; these are gnats, or, as they are called *Musquitoes*. They are most troublesome towards night, in warm wet weather, and near woody, damp, or marshy situations. Italy is infested in the same manner in the summer-time, wherever there are rivers and stagnant waters; which I have experienced in many places, and can justify HORACE's complaint in his marshy journey from Rome to *Fundi*, in his way to *Brundusium* *.

---

* —— mali Culices ——
Avertunt somnos. Lib. I. Sat. 5.

Though *Musquitoes* are a great vexation in all the islands, yet they are worse on the continent. It is said at *Mexico*, and many other places, that they sometimes kill people with their bites. Sir *Henry Morgan* thought, from the amazing quantity which he saw at the lake *Maracayba*, that it was a cloud before him.

Their bites raise little lumps, or swellings, in the skin, which cause an uncommon degree of itching; these are scratched sometimes into painful acrid ulcers, particularly in the legs. A bite, if not scratched, or irritated, though extremely disagreeable, will not long continue troublesome. Some people apply oil, vinegar, lime-juice, or camphorated spirits, to the part, to allay the itching and tingling. In the inland and woody situations, even those who have been long resident in these countries, find it convenient to wear a sort of loose linen buskins, to guard their legs in an evening; and it is an universal custom to have a gauze curtain, or net, to surround the bed, to keep them away by night; otherwise, in some places, it would be impossible to sleep.

Fire and smoke drive them away; and this is another practice used by people who reside in the woods, and interior parts of the islands.

On the continent, near woods and stagnant waters, the Indians bury themselves in sand, in an evening, having no other means to avoid their persecution.

Another tropical insect frequently attacks the feet and toes of new-comers, and surprizes them with an unusual sensation of itching; the residents are equally subject to the plague of these almost invisible vermin, and are sometimes lamed by them. These are *Chigoes*, a kind of little fleas; they chiefly keep in dusty, dirty places, and are bred on hearths, and in chimney-corners, among the ashes: they are about the size of a cheese-mite. They lance the skin imperceptibly in the soles of the feet, or about the toe-nails, and insinuate themselves, where they deposit their eggs, including their eggs and themselves in a little round vesicle, which increases to the size of a small pea sometimes, before it is noticed. It then acquires a blueish appearance, from the colour of the Chigo itself, which is in the midst of an innumerable quantity of *animalcula*, each of which is capable of creating a new disturbance, if, in taking out the bag, it be broken, and any remain behind in the flesh. Some people have had great inflammations from them, and some have had their toes mortified. The negroes often let them collect and remain in their feet, until their toes rot off.

The common method of taking out the bag, is, with the point of a needle, without piercing it, by separating it from the skin quite round, and drawing it out; then filling up the hole, and rubbing the part with tobacco-ashes. LIGON says *, he had ten chigoes taken out of his feet in a morning, while he was at Barbadoes (which was from 1647 to 1650), by the most unfortunate Indian woman YARICO †.

There is also abundance of scorpions, tarantulas, centipedes, and spiders, whose venomous stings and bites are very painful, but rarely attended with danger. The tarantulas have their habitations in loose rocky places, and in the mountains; and those other insects are generally found in old buildings, among rotten wood, and in unfrequented places: sometimes they creep forth into beds, and among people's clothes, particularly scorpions, and are not detected until they are discovered by their sting. Rum, or oil, applied, generally abates the anguish of the wound: but if a fever, with con-

---

* History of Barbadoes, p. 65.

† Spectator, N° 11.

vulsive twitchings, ensue, which in bad habits of body, or when the wound is in a part of great sensibility, will sometimes happen, the wound should be immediately slightly burnt with *Lapis Infernalis,* or any caustic, and afterwards poulticed, and the patient should take some warm diluting diaphoretic, with an opiate.

GALEN justly observes, that a person who had not witnessed the fact, would not suppose that so small an injury as the sting of a scorpion, or the bite of a poisonous spider, could produce the violent effects which they do in the whole body.

He says, the aculeus, or sting, of a scorpion ends in the minutest point; and has no perforation through which any poison can pass in to the wound. Yet, he says, we must suppose the venom to be some spiritual substance, or moisture, in which a great power is concentrated in a small compass *.

Before I had an opportunity of examining this subject, my respect for the opinion of GALEN made me doubt the accuracy of LEEUWENHOEK, REDI, MEAD, and others, who assert that there is an aperture near the cuspis of a scorpion's sting; and that through this aperture a liquid poison is injected when a wound is inflicted. Repeated experiments, with the best glasses, have never enabled me to discover any foramen, or opening, whatever.

---

* De Locis Affectis, Lib. III. cap. xi.

Mrs. *Pidgeley*, at Kingston in Jamaica, in January 1781, was stung by a scorpion in the foot, above the little toe. The part became instantly red and painful; and soon after livid. The pain increased to great severity. Some rum was applied to the wound, on which the pain immediately left the foot, and passed up to the groin, with great agony. The pain still passed upwards, and diffused itself about the pit of the stomach, neck, and throat, attended with tremors, cold sweats, and languors. As the pain passed the abdomen, it occasioned a violent purging, and fainting, which ceased on its advancing higher. I was called to her, and gave her the following medicines; a few doses of which removed every symptom. She had been extremely ill for thirty-six hours.

℞ *Sal Succin.* ℈ij; *Camphor. gr.* xij; *Cinnabar. Antimon. gr.* x; *Confect. Card. q. ſ. fiant boli sex.* One of these was taken every hour, with four spoonfuls of the following mixture: ℞ *Aq.*

Menthæ ℥ vij; *Elix. Paregoric.* ʒij; *Syr. Croci* ℥ ſſ; *Misce.*

But though these inconveniencies are found in the islands, there are none of the greater evils, with which the neighbouring continent abounds; such as tigers, lions, bears, wolves, and deadly venomous serpents.

Of the various venomous serpents in Spanish America, we have but an imperfect account from the Spaniards. They reckon the following the worst, and most common.

The *Corales*, or Coral Snakes, which are about four or five feet in length, and an inch in diameter, of a very beautiful appearance, their skin being variegated with a bright crimson, yellow, and green, with an head shaped like the European serpent.

The *Cascabeles*, or Rattle Snakes; and the *Culebras de Bejuco*, or Bejuco Snakes, as they resemble the colour of the Bejuco, and from whose branches they hang down, and bite whatever disturbs them.

The *Hæmorrhous*, which is common at Carthagena, and is called by its proper name. It is also common on the Spanish Main, and Musquito Shore, where there are other deadly venomous serpents; one species of which the Indians and inhabitants call *Tomogos*; and another, the *Barber's Pole*, from the manner in which it is marked.

ULLOA says, "That a person bitten by the "*Coral Snake* immediately swells to such a de-"gree, that the blood gushes out through all "the organs of sense; and even the coats of the "veins at the extremities of the fingers burst, "so that he soon expires *."

These effects have been generally thought to belong only to the bite of the *Hæmorrhous*; but I believe the same effects are produced by all the tribe of deadly venomous serpents, and that there is no specifical difference between them, except in the violence and rapidity by which the poison is diffused through the body: the rest depending on the heat of the weather when the accident happens, and the state, and habit of body of the subject, at that particular time.

In the expedition from Jamaica in 1780, on the Spanish Main, a soldier of the 79th regiment, in marching through the woods near *San Juan* castle, was bitten by a serpent, hanging from the bough of a tree, under the orbit of his left eye; from which he instantly felt so much pain that he was unable to proceed. He died in a few hours, with his body considerably swelled, and of a deep yellow colour. The eye, near the bite, was entirely dissolved.

---

* Book I. ch. 7.

The bite of the species of serpent called *Ptyas*, is said to be followed by a tranquil lassitude and sleepiness. NICANDER says, those who are bitten by it die in delightful transport. This induced CLEOPATRA to apply it to her bosom, that she might end her voluptuous life by a voluptuous death *.

F. HOFFMAN is one among a multitude, who has been deceived by the false reports of travellers on this subject. He says, "In the islands "of *Cuba*, *Jamaica*, and *Hispaniola*, the bites of "serpents are highly injurious to the inhabi-"tants." But in this HOFFMAN is mistaken; for though the Spaniards exterminated the human aborigines of these islands, their immense woods, and inaccessible mountains to men, would have been the protection of serpents, if there had ever been any. But the Spaniards did not find any poisonous serpents in these islands when they first went there; which PETER MARTYR has properly recorded *.

---

* GALEN relates, that she made a deep wound in her arm with her teeth, and poured the poison into it, after having tried its fatal effects on her two faithful female attendants. De Theriaca ad *Pisonem*, cap. 8.

There are snakes in the islands, such as the *Yellow Snake*, from eight to twenty feet in length: the large *Black Snake*, from four to twelve feet in length: and the small *Black Snake*, and *Spotted Snake*, of about two or three feet in length. But the bites of these, are not venomous; nor further troublesome to cure than any other lacerated wound. Their depredations are confined to pantries, poultry, hens and pigeons nests, young vermin, and reptiles. There are many fabulous stories related of the *Yellow Snake*, attacking calves and lambs, and twining round other animals and strangling them: — and that the *Amphisbæna*, or Silver Snake, has been found in the islands, and that its bite is venomous; but neither of these facts have been proved.

The bites and stings of all venomous animals are cured by the same local means; which are very simple, if they were always at hand. The injured part must be instantly destroyed, or be cut out. Destroying it is the most safe, and equally certain: and the best application for that purpose, is the *Lapis Infernalis,* or the *Butter of Antimony.* — These are preferable to an hot iron, which the ancients used; because an hot iron forms a crust, which acts as a defence to the under parts, instead of destroying them. The *Lapis Infernalis* is much better than any other caustic; as it melts and penetrates during its application. The bitten part must be destroyed to the bottom; and where there is any doubt that the bottom of the wound is not sufficiently exposed, *Butter of Antimony* should be introduced into it on the following day, as deep as possible; and incisions should be made to lay every part open to the action of these applications. Besides destroying, burning, or cutting out the part, incisions should be made round the wound, to prevent the communication of the virus. The wound is to be dressed for some time with poultices, to assuage the inflammation caused by the caustics; and afterwards with acrid dressings, and hot digestives, to drain the injured parts.

---

* Decad. I. Lib. 1.

Where the above-mentioned caustics cannot be procured, corrosive sublimate, oil of vitriol, aqua fortis, spirit of salt, common caustic, or a plaster made of quick-lime and soap, may be applied to the wound. Gunpowder laid on the part, and fired, has been used with success. When a person is bitten, remote from any assistance, he should make a tight ligature above the part, until proper application can be made. The Spanish writers say, that the *Habilla de Carthagena,* or Carthagena Bean, is a specific for poisonous bites, taken inwardly.

ULLOA says, it is " one of the most effectual " antidotes known in that country (Carthagena) " against the bites of vipers and serpents: for " a little of it being eaten immediately after the " bite, it presently stops the effects of the poi- " son; and accordingly all who frequent the " woods, either for felling trees or hunting, " never fail to eat a little of this *habilla* fasting, " and repair to their work without any appre- " hension.

" The natives tell you, that this *habilla* being " hot in the highest degree, much of it cannot " be eaten; that the common dose of it is less " than the fourth part of a kernel; and that no " hot liquor, as wine, brandy, &c. must be " drunk immediately after taking it*."

---

* Book I. ch. 6.

The Carthagena bean, or *habilla*, is found in great abundance in the West-Indian islands; where it is generally known by the name of *Antidote*, or *Cocoon*, or *Antidote Cocoon*. In small doses it is stomachic and diaphoretic; and in large doses emetic and purgative. In several disorders it is a powerful remedy; but its virtues are not sufficiently known, except among the Indians and negroes, who chiefly use an infusion, or tincture, of it made in rum. This is externally, as well as internally, used for many complaints *.

I have been informed by some intelligent Indians, that any of the *Red Peppers*, such as *Bird Pepper*, or *Bell Pepper*, or what is called *Cayenne Pepper*, powdered and taken in a glass of rum as much as the stomach can possibly bear, so as to cause, and keep up for some time, great heat and inflammation in the body, and a vigorous circulation, will stop the progress of the poison of serpents, even after its effects are visible; and that the bitten part only afterwards mortifies, and separates, and that the patient, with bark, wine, and cordials, soon recovers.

---

* This bean is the seed of the *Fevillæa* foliis cordatis, of PLUMIER, ED. BURMANNI, p. 203, tab. 209. *Fevillea* foliis cordatis, angulatis, of LINNÆUS, Spec. P. *Fevillea* foliis crassioribus, glabris, quandoque cordatis, quandoque trilobis, or *Antidote Cocoon*; of BROWN, p. 374.

This fiery practice is certainly agreeable to that of the ancients*, and probably the only internal treatment that can have any good effect; as in these cases the powers of life, and the action of the heart, are suddenly enfeebled, and the pulse in strength and frequency observes almost a regular declension, from the time of the bite, until it intirely ceases in death.

This confirms the remark of CELSUS, that venomous bites kill by extinguishing the vital heat.

But there is no relying with security on any thing, without the external treatment.

The Indians in Popayan, when any person has been poisoned by the *Coya*, or *Coyba*, (a

---

* "Necessarium est exsorbere portionem Meri Vini cum "Pipere, vel quidlibet aliud, quod calori movendo est, nec "humorem intus coire patitur. Nam maxima pars venenorum frigore interimit." CELS. Lib. V. cap. 27.

"Dandum autem est cum cibis, edendum Piper, aut Allium. Vinum bibendum est forte, ut ex eo recentibus "vaporibus, et familiari caliditate, corporis miscella repleatur." P. ÆGINETA, Lib. V. cap. 2.

deadly

deadly venomous insect, shaped like a spider, but less than a bug), burn the part: and if the body begins to swell, they singe it all over with the flame of straw, or dry grass:—this process generally succeeds.

The practice of cauterizing parts, for the gout, and other external pains, by burning on them little cones, or cylinders made of moxa, lint, tow, and other downy vegetable substances, was used by HIPPOCRATES; and still is, in China, Japan, Arabia, and many other nations. It is a coarse remedy; but in obstinate, fixed, local pains, and in numbness, I have seen great relief procured by it.

GALEN says, when he was in Alexandria, there was a rustic, a little way from the town, bitten on one of his fingers by an asp; the man made a tight ligature on it, and ran immediately to town to a surgeon, who amputated the finger, and no mischief ensued. He says he knew another, a vine-dresser, who being bitten on the finger by a viper, directly cut off the finger himself, with an hatchet, and without any internal medicine remained well *.

GALEN infers, that the slightest scratch in the skin is sufficient to communicate the poison of animal venom.

---

* De Loc. Affect. Lib. III. cap. xi.

He also infers, that this venom operates by affecting the nerves; extending the mischief by means of their communication, from the injured part, to the whole system.

He observes, that though the sting of a scorpion may pierce through the skin, the bite of a poisonous spider does not: that penetrates no deeper than the superficies of the skin; and yet the whole body is soon violently affected by it. The cause of which, he remarks, is, that the skin is a continued covering over the whole body, and full of nerves; from whence poisonous infection may be swiftly distributed to the origin of the nerves, or to some vital part, and become fatal.—Yet GALEN, in all cases of venomous stings and bites, advises a ligature to be made, in the first instance, above the injured part; the good effects of which he had experienced even in the bites of deadly venomous serpents[*]. CELSUS also advises ligatures[†].

FELIX FONTANA[‡] attributes the first use of ligatures, in the bites of venomous animals, to KEMPFER; it is evident he had not consulted CELSUS or GALEN.

---

[*] De Locis Affectis, Lib. III. cap. xi.

[†] Lib. V. cap. xxvii.

[‡] Treatise on Poisons.

The use of ligatures, however, seem more applicable to the doctrine of lymphatic absorption, which was not known in GALEN's time.

But vascular absorption is by no means adequate to the phænomena, which arise from externally applied venom, or infection. Nor has it ever been ascertained, notwithstanding some pertinacious opinions, whether the solids, or the fluids, are the conductors of that universal affection which deranges the whole system, from the above causes.

The redness of the skin, and pain, which may be traced in the lymphatics and glands, leading from a part where infection has been inserted, is no conclusion. A puncture from the point of a needle often produces similar consequences.

Whence comes it, that the smallest portion imaginable of the poison of some serpents, so instantaneously changes the state of the solids and fluids, and so breaks down their union, that life is extinguished, with electric rapidity; and that the poison of a mad dog should be four, or six weeks before its effects appear; and sometimes three, six, nine, or twelve months?

The movement of the lymphatic fluid is too slow for one of these operations, and too quick for the other.

Mead's theory of infection supposes, that there exists a fluid in the nerves; by which poisons are carried into the system, and on which they act, in exciting their dreadful effects in the animal œconomy.

He says, "No regard ought to be had to the "immechanical notions of authors who imagine "that muscular motion and sensation are performed only by vibrations of the fibres of the "nerves, without the intervention of any spirituous fluid. This fluid, so far as we can "discover by its effects, is a thin volatile liquor, "of great force and elasticity, being indeed "most probably a quantity of the universal "elastic matter, incorporated with fine parts of "the blood, separated in the brain, and lodged "in the fibres of the nerves *."

These hypothetical notions of Mead were once believed in; but they are not now, when conjecture goes for nothing.

---

* Introduction to his Mechanical Account of Poisons.

Fontana asserts, that the blood is the seat of the action of poisons; and that when they are introduced into it, they bring on death, by destroying the irritability of the muscular fibres.

He founds his opinion on experiments, made by injecting some of the poison of a serpent into the jugular vein of animals; the effects of which, were immediate death.

He asserts also, that this poison is intirely innocent to the nerves. This opinion he supports by having laid bare the sciatic nerve, and after wounding it, he applied some of the poison to it. The symptoms and phænomena that followed, he says, differed in nothing from those which appear from a simple wound of the nerve with the point of any instrument; death being the consequence in both cases alike.

He confesses, that the same poison as was injected into the vein, made not the least change in the blood, out of the body, though mixed with it the instant it came from the orifice, and received into a vessel warmed to the heat of the blood.

I would ask this persevering experimenter, how it happens, that hæmiplegia, and other degrees of palsy, are sometimes caused by the bites of vipers, if the nerves have no concern in the operation of the poison?

Whence arise palpitations, tremors, vertigo, cold sweats, incontinence of urine, vomiting, and purging, from the sting of a scorpion, or the bite of a spider?

How comes it, that a polypus, having no teeth, kills a water worm, an animal tenacious of life, by only touching it with his mouth or lips?

Besides, olive oil, and a thousand other equally innocent things, injected into the jugular veins, cause speedy death.

FONTANA's idea, "that the *Lunar Caustic* is "the true specifical remedy against the dreadful "poison of the viper," and his reasoning thereon, are equally inconclusive.

The *Lunar Caustic* is not an "antidote to "this venom," as he affirms, as acting by any specific virtue. But like the *Lapis Infernalis*, or any other powerful cautery, it destroys all organization within the sphere of its action; and by rendering the part affected no longer a living part, creates insensibility to the operation of the poison, and an incapacity of communicating it.

It has always been a matter of surprise to me, that HILLARY should say *Canine Madness* "is so "frequently seen in most hot countries, and "especially in the West-Indies, that it may be "said to be endemial*;" which is so far from being true, that if HILLARY, who treats of it, and relates several cases that were under his care in Barbadoes, had not been a man of good character, I should have doubted whether he had ever seen a mad dog in the West-Indies.— I am aware that HUGHES, in his *Natural History of Barbadoes*, says, this disease was there in or about the year 1741; and that a cow, in an hydrophobia, was cured by pouring a pail-ful of cold-water down her throat †.

During my residence in the West-Indies, I never heard of the disease; and from the inquiries I have made, I am certain that there has been no canine madness in many of the islands, if in any of them, for fifty years, before the year 1783; and I am not satisfied with the authority which informs me it was ever there before that year. On the immense continent of South America, it has never been seen. **Ulloa** says, "the people there express their astonishment when an European relates the melancholy effects of it *:" and **Pouppe Desportes**, who practised physic in *Hispaniola* from 1732 until 1748, says in that island they are intirely ignorant of it †.

---

* On the Diseases of Barbadoes, p. 245.

† P. 33.

It is certain, that diseases undergo changes and revolutions. Some continue for a succession of years, and vanish when they have exhausted the temporary, but secret, cause which produced them. Others have appeared and disappeared suddenly; and others have their periodical returns.

The *Nervous Remittent Fever*, the great endemic of Jamaica, entirely changed its type in 1770. It was then accompanied by an immense miliary eruption, and several other circumstances, which had never been observed before that time. It raged with unusual violence, and carried off almost all the young people who were seized. It returned, with its new attendants, in the spring and summer of the two succeeding years; but has not been there, in the same form, since.

---

* Book V. ch. vi.

† "A *Saint Domingue* on a l'avantage de ne pas connoſtre la rage." Histoire des Maladies de *S. Domingue*. Vol. II. p. 157.

In the spring of 1783, canine madness broke out in *Hispaniola;* and in the month of June in Jamaica, where it raged until March, 1784. It was said at first, that it was brought to Jamaica from Hispaniola; but experience proved the fact to be otherwise.

The common notion that this disease among dogs can only proceed from the poison of an external bite, or that it originates in some particular dog, from internal disease, and from thence is disseminated, has excluded the idea of spontaneous madness, arising from some peculiar influence in the air. But this influence of the air generated the canine madness in the year 1783, in the West-Indies; for it was general, and many dogs were seized with it, that had no communication with others: and some dogs which were brought from Europe, and North America, and that were not on shore, went mad on their arrival in the harbours of the islands.

The same atmospheric cause produces this disease almost every year among foxes, wolves, and dogs, in many parts of Europe; some instances of which I have seen in my travels.

In *Venice* I found the common opinion to be, that the disease is often occasioned by thirst: for which reason all barbers, shoe-makers, and coffee-house-keepers, are obliged to have a small tub, or pan of water, before their doors, particularly in hot weather, that the dogs running about the streets may drink when they want, as there are no places in that city where they can otherwise supply themselves with fresh water.

In 1783 this disease was general in Jamaica. Many negroes were bitten, and died *Hydrophobous*.

A boy belonging to Mrs. *Inglis* in Kingston was bitten by a little dog supposed to be mad, which was therefore killed. The bite, or rather scratch, was not larger than one made by a pin, being only a rasure of the skin, by a tooth. It was thought too inconsiderable to be hurtful. Four months afterwards the boy was seized as if he had got a cold, and soon after symptoms of a *Tetanus* appeared. He died on the third day, but had no symptoms of *Hydrophobia.*

An attorney-at-law in Kingston was bitten by his own dog. The bitten part, which was in the ball of the thumb, was cut out. He was then salivated by mercury, externally and internally used; and he had no symptoms of disease. One of his negroes was also bitten, and treated in the same manner, and with the same success.

Many hogs, and goats were bitten, and died mad.

An horse belonging to Mr. *Edward East,* in Liguanea, was bitten, and being seized with madness, was shot. Another horse, belonging to Mr. *Andrew Cathcart,* a merchant in Kingston, was bitten. He broke out of the stable and ran about mad, until, by beating his head against a wall, he killed himself.

In the cure of the bite of a mad dog, the local treatment is alone to be depended on; and that local treatment the same which I have already related in the cure of the bite of deadly venomous serpents *.

---

* Page 35.

Mercury is of no use; nor have any of the famous specifics that have been imposed on mankind ever produced any effects that could be depended on. The sooner the bitten part is destroyed the better. But where application has been omitted for some time, and even when the bitten part is healed, it should be removed by taking out the flesh all round, deeper than the wound originally was, by the *Lapis Infernalis*; and should be dressed with acrid dressings, and be kept open, and digesting for many weeks. This method of treating the bites of mad animals, if in a part where it can be used, will, I am convinced, from my own practice, prevent their fatal effects; applied at any time previous to the first symptoms, that forerun a general affection, which ends in hydrophobia, and yields to no remedy yet discovered.

Samuel Haines, game-keeper to the late DUKE OF BEDFORD, was bitten by a mad dog at Wooburn Abbey, on the 21st of October 1788, in his right hand, by which two wounds were made; one of them was considerable. He was sent to me four days after the accident. I had the parts deeply destroyed by the *Lapis Infernalis;* and once well searched afterwards, and dressed with *Butter of Antimony*. The wounds were kept open for a month with *red precipitate*

and

and digestives. He returned home perfectly well. The dog died mad.

The coasts and rivers of all the islands abound with a vast variety of excellent fish; and those of Jamaica are almost free from poisonous fish, which much infest the coasts of some of the other islands.

I wish I could say that the rivers were exempt from *Alligators*, and the coasts and harbours from *Sharks*: but that is not the case, and people should never venture into rivers, nor harbours, to bathe, as terrible accidents frequently happen in the West-Indies, from these horrid creatures.

A negro woman, belonging to Mr. *Kennion*, in the Parish of St. Thomas in the East, some years ago, was seized as she was washing her linen in *Plaintain-Garden* River, and torn in pieces by an alligator. She was advanced a little way into the river, and as she was stooping down with her hands in the water, the alligator seized her by the arm, dragged her away, and smothered her. From the depth of the water, and the muddiness of the bottom, though the accident happened in the presence of many people, they were unable to assist her.

Mischief from sharks happens almost every day, in some of the islands.

During the American war, in 1780, while the *Pallas* frigate was lying in Kingston Harbour, a young North American jumped overboard one evening to make his escape, and perished by a shark, in a shocking manner.

He had been captured in a small vessel, lost all his property, and was detained by compulſion in the English navy, to serve in a predatory war against his country. But he, animated with that spirit which pervaded every bosom in America, resolved, as soon as he arrived at some port, to release himself from the mortifying state of employing his life against his country; which, as he said when dying, he was happy to lay down, as he could not employ it against her enemies.

He plunged into the water; the *Pallas* was a quarter of a mile from the shore. A shark perceived him, and followed him, very quietly, till he came to a state of rest, near the shore: where as he was hanging by a rope, scarcely out of his depth, that moored a vessel to a wharf, the shark seized his right leg, and stripped the flesh entirely away from the bones, and took the foot off at the ancle. He still kept his hold, and called to the people in the vessel near him, who were standing on the deck and saw the affair. The shark then seized his other leg, which the man by his struggling disengaged from his teeth, but with the flesh cut through down to the bone, into a multitude of narrow slips. The people in the vessel threw billets of wood into the water, and frightened the shark away. The young man was brought on shore; I was called to him; but he had lost so much blood before any assistance could be given him, that he expired before the mangled limbs could be taken off.

A few weeks before this accident happened, a shark, of twelve feet in length, was caught in the harbour; and on being opened, the entire head of a man was found in his stomach. The scalp, and flesh of the face, were macerated to a soft pulpy substance; which on being touched separated entirely from the bones. The bones were somewhat softened, and the sutures loosened.

It is evident that digestion in these animals is not performed by trituration, nor by the muscular action of the stomach; though nature has furnished them with a stomach of wonderful

ful force and thickness, and far exceeding that of any other creature. Whatever their force of digestion is, it has no effect upon their young ones, which always retreat into their stomachs in time of danger.

That digestion is not performed by heat in fish, is equally evident. Being on the Banks of Newfoundland in August, 1782, I opened many Cod-fish, and ripped up their stomachs just as they came alive out of the water; in which were generally found small oysters, muscles, cockles, and crabs, as well as small fishes of their own, and other species. The coldness of the stomach of these fishes is far greater than the temperature of the water out of which they are taken; or of any other part of the fish, or of any other substance of animated nature I ever felt. On wrapping one of them round my hand, immediately on being taken out of the fish, it caused so much aching and numbness, that I could not endure it long.

In the West-Indies, where a choice of situation for residence can be made, the more elevated, and the further removed from all kinds of water, the better. Stagnant waters, and swamps, load the air with pernicious vapours, that are productive of obstinate intermittent fevers, diseases of the liver, and putrid diseases. This was woefully experienced in Jamaica, when the naval hospital of that island was at *Greenwich*:—and in the autumn of every year, the air of the swamps and marches to the West of *Kingston*, and about the *Ferry*, extends its baleful influence to all the neighbouring habitations. I, among many other people, in passing that insalubrious district, a little before the rising sun, have had a shivering and coldness, as in an ague. I have suffered the same effect in crossing the lethiferous *Pontini* fens near *Terracina*, between Rome and Naples, just at the break of day*.

People, whose occupations or habitations are in, or near, low, marshy places, should sleep from them as often as possible; and always in the rainy and autumnal seasons. Fevers, and other disorders, acquired in these situations, are always most speedily, and often only to be cured, by removing the patient to some healthful place, in a pure air, the instant he is attacked; or before the disease is so far advanced as to make removal ineffectual, or dangerous. But if there be danger in removing a patient, while labouring under a fever, there is also danger in suffering him to remain in a situation noxious, from local circumstances, to the human frame. ASCLEPIADES advises carrying the patient out in the air, in common practice, even in the *Ardent Fever,* and in the beginning of it; but CELSUS disapproves of this doctrine, and thinks it only admissible when the tongue is moist, where there is no tumor, nor hardness, nor pain in the viscera, head, or præcordia, or in any other part of the body, unless it be a nervous pain, and then only in the remission of the fever *.

---

* The greatest degree of cold is commonly a little before, or at the time when, the sun just appears at the margin of the horizon. This phænomenon arises from the solar rays, warming the superior region of the atmosphere, only, at their first approach, and causing a rarefaction there; from which the cold and moist vapours, collected in the night, fall in an increased quantity near the surface of the earth.

As the places where wood and water are obtained in hot climates, are generally swampy and unhealthful, sailors who are sent from their ships on shore to procure those articles, ought never to be permitted to sleep there; —and if they are seized with any disorder, they should be immediately removed on board their vessel. Many instances of great mortality have happened from laying in wood and water in these climes; and ships have been often obliged to hasten from an unhealthful coaſt, and put to sea, with scanty allowance, without people in health sufficient to do their duty.

---

* Lib. II. cap. 15.

The aspect of an house may be towards any other quarter than the West; but this will depend on situation, in some measure, and the construction of the building. For if it have only a single roof, in a long narrow range from North to South, and that the front be to the East, the sun will bear all his force on its largest surface from six to eight in the morning; and, for the same reason, on the West side, from four to six in the evening: and render it excessively hot. If it range from East to West, the morning and evening sun will have less surface to act on, and the building must necessarily be cooler; as the meridional sun acts nearly the same on the roof, let it be placed how it may. But the East should not be excluded on account of the breeze, and the afternoon shade and coolness; then, if the building be single, a North front, with windows, piazza, and balcony to the East and South, has the advantage. But if the building be large and double, an East front is on the whole the best plan for an house in the West-Indies.

These observations are equally applicable, whether the building be intended for a dwelling-house, or barracks for soldiers, or an hospital; and what BACON says of houses in England, is pertinent to the same subject in the West-Indies. — "It were good for men to think "of having healthful air in their houses; which "will never be if the rooms be low-roofed, or "full of windows and doors: for the one "maketh the air close, and not fresh, and the "other maketh it exceedingly unequal, which "is a great enemy to health *."

The dread of earthquakes, together with the consideration of œconomy, in the West-Indies, induce many people to build their houses very slight, and chiefly of wood; by which means they are subject to extreme heat by day, and extreme cold by night. Large rooms to keep the rays of the sun at a distance, and thick stone, or brick walls, to prevent their pervading, constitute the only requisites for a cool, healthful, and pleasant house in hot climates: for in rooms thus constructed, a great volume of air is cooled and condensed, that cools and temperates the external hot air, which is admitted for its renovation. — Such are the public

---

* Cent. 10. exp. 937.

buildings, hospitals, and houses in Italy *; from the amplitude of which, the inhabitants of Rome and other places, besides qualifying the parching heat in summer, shut out the Sirocco and other unwholesome winds, and often secure themselves against the reigning epidemic; and against heaviness of the head, catarrhs, and inflammations of the eyes, diseases which afflict particular towns and situations, when moist Southern winds prevail.

That mountainous situations are very healthful in the West-Indies, we have many proofs; and that people who have been ill in the lowlands, soon recover their health in the mountains, and avoid the trouble and expence of coming to Europe.

At Mr. *Hinton East's* mountain, above the banks of Hope River, in Jamaica, the temperature of the air being at about 75° is moderate and agreeable. In a garden there, belonging to this worthy gentleman, there are a multitude of European productions in their native beauty. There are also the *Mango, Mangostan, Jack tree, Camphire tree, Gum Arabic tree,* and several of the spices of India; among which, the *Cinnamon tree* flourishes in the highest perfection: two plants of which, each about six inches long, were brought to the island in June, 1782, in a French vessel bound from the isles of *France* and *Bourbon* to *Hispaniola,* but taken and made a prize of by the *Flora,* an English frigate. These plants, with some others, were intended for the Governor of *Hispaniola.* This is the introduction of that valuable tree at Jamaica, which suits so well with its growth, that the two original plants blossomed, Mr. *East* informed me, and bore seeds in 1785, from which he has produced many others: and it is probable, that the birds, which have every year robbed his trees of a considerable quantity of seeds, will plant many more in the woods, and that *Cinnamon trees* will be found growing wild there, and give rise hereafter to doubts concerning their origin.

---

* On an hot day in summer, the thermometer will be at 62° in St. Paul's church, when it is at 70° in any common house, 75° on the shady side of a street, and 80° in the sun.

If people, when they retire to these mountains for health, could leave their cares behind, and avoid the importunity of business, which is very difficult from the proximity of their homes, there would be less occasion for European voyages than is generally believed. But they are too near the interesting scene which perhaps disturbed their health, unless they can resolutely there, or at least to make it a retreat for convalescents.

I have had many opportunities of knowing the necessity for some regulation of this sort in Jamaica; but it should be performed in time of peace, for in war there is nothing but confusion. The good effects that would result from it may be judged of already, by the health of the troops that are quartered at *Stoney-Hill* barracks.

In time of peace, the hot lowland and sea-coast posts require no defence. It is then that health alone should be considered; and if the cool mountains are the only places where it can be preserved, there is no reason to sacrifice men, at that time at least, in Jamaica.

In time of war it is otherwise; the frontier fortresses must be garrisoned. But then the troops should be first seasoned in the mountains, and be brought down to the plains, when, by being gradually inured, they are better able to bear duties in the severity of the heat.

This reflection, I know, extends only to the island of Jamaica; for the other English colonies have not the advantage of such lofty, spacious, abundantly watered mountains, as variegate and fertilize that island.—For which reason the troops, intended for their garrisons in time of peace, or for their defence in war, or to carry on any expedition against an enemy in that part of the world, should be first sent to the healthful *Bermudan* Islands, and remain there for several months, or for a year, if possible, to acquire a proper seasoning for tropical operations; from whence they might be transported to almost any part of the West-Indies, in a week or ten days *.

I am sensible, that reformations are often easily planned on paper, that are very difficult in the execution.—The obstacle to surmount in these suggestions is, the want of sufficient barracks at the *Bermudas*, and in the mountains of *Jamaica*, for the accommodation and seasoning of troops. But this difficulty is easily remedied.—Then successful enterprise might be looked for in war, and the security of our possessions would be insured,—and then, indeed, the end and utility of troops, in the West-Indies, might bear some proportion to the expence; and the good sense which ought to distinguish government, would be turned to an object, not less interesting to sound policy, than to œconomy and humanity,—for at present the troops are sent thither only to be buried: and let it be remembered, that this mode of interring a soldier, is more costly to his country, than a sepulchre at home would be, adorned with a monument of marble*.

---

* The *Bermudas* are in N. lat. 32°, and in W. long. 65°.

It is not simply, to heat alone, except when people are openly exposed to the action of the rays of the sun, that diseases in general owe their origin in these climes; and even then, the *Ictus Solis*, or *Coup de Soleil*, though pro-

State and distribution of the troops in the island of Jamaica, on the 1st of January 1803:

Regiments.	Strength.	Sick.	Where stationed.
55th - -	700	70	Trelawny Maroon town, and Montego Bay, with small detachments in the neighbourhood.
1st batt. 60th	400	50	Port Maria, Port Antonio, and sundry small ports, on the North side of the island.
4th batt. 60th	600	70	Kingston and Spanish Town; the former having six companies, the latter four.
6th batt. 60th	600	70	Up-Park camp.
85th - -	800	80	Stoney hill.
Black Reg.	600	80	Fort Augusta.
Artillery	150	30	Port Royal.
Total	3850	450	

ductive of dangerous fevers, has seldom been known to kill any person suddenly: which has been the case in *Philadelphia*, and many other parts of North America *." I have felt equal inconvenience from heat at *Venice*, *Naples*, *Rome*, *Montpellier*, and also in *Virginia* †; and experiments have shewn, that the human frame can bear far greater degrees of heat than any climate produces, without injury; and that cold alone can be sustained without destroying life, even when some of its functions have been suspended for a considerable time.

But it is the transitions from one to the other, which are so annoying to human nature.

---

* I saw a man lately at *Strasbourgh*, who has been insane for more than a year, in consequence of an *Ictus solis*. The fatal effects of being exposed to the solar rays, have been experienced in various countries. In England, in the year 1707, on the 8th of July, many people at work, and many horses and oxen, were killed in the fields by the sun's rays; and at *Pekin*, in the year 1743, between the 14th and 25th of July, eleven thousand people perished in the streets, from the same cause.

† TOALDO says, the heat of the sun was so great at *Montpellier*, on the 30th of July, 1705, that eggs, exposed to its action, were hardened as if they had been boiled. CHALMERS, in his *Account of the Weather and Diseases of South Carolina*, p. 17, says, at *South Carolina*, he has seen "a beef-"steak laid on a cannon, exposed to the sun for twenty "minutes, deprived of its juices, and to be over-done."

It is these transitions between the tropics, small as they are, out of the sun, that give rise to those diseases which are so fatal to unseasoned Europeans; because their fibres and fluids are not qualified to suffer the diurnal revolutions in the frame, from the various impressions of the atmosphere, as condensed, or rarefied, by the absence or presence of the sun: as brought from the sea by day, or loaded with damp and frigorific particles from the land by night.

Besides, living in an hot steam as it were, their bodies are filled with it; and the turgidness and firmness of the capillary vessels of newly-arrived Europeans, require some time to render them sufficiently pervious to let out the inflamed and rarefied parts of their rich blood by the pores, fast enough, to cool it and bring it down to a state suitable to the climate, for the purposes of the well-being of the body: from which they are subject to inflammatory diseases of the most violent kind, upon the slightest check to perspiration.

To supply the surface of the body with energy to carry on the important office of perspiration, nature has established a greater circulation towards the skin, in hot climates, than is necessary in cold climates.

Thus the internal parts of people, who have lived long in hot climates, are drained, and lose much of their natural heat and susceptibility. They nauseate insipid things, and can bear the greatest internal stimulus without inconveniency. Hence arises the strong desire for salted meats, and also for peppers and spices, with which nature has bountifully supplied these climes.

From the great relaxation and debility of the nervous system in tropical climates, the most trivial change of the air, which makes but a small variation on the thermometer, is productive of such a sensation of cold, or heat, as is no more to be accounted for by the operation of those powers on the thermometer, than the influence of the moon: and there is not vigour enough in the extreme fibres and vessels, to resist and overcome the smallest oppression of their functions. If the heat of the air should sink to 72°, and remain stationary for a day, in places where the medium is 80°, it produces an aguish or chilly sensation, that is hardly to be described. In the habitable mountains, where the air is scarcely ever so cool as what is called temperate in Europe, people who go there suddenly from the lowlands, find the coldness at first hardly supportable, and that intolerable coldness which is felt on the summit of the *Blue Mountains* (the highest land in Jamaica, about 2400 yards above the level of the sea,) is but the effect of the suddenness of the change from the scorching heat below: for the thermometer has never been known to be lower there than 42°, and that even at night, during a North wind, in the month of February.—On the following morning at ten o'clock, it was 68°.

The air here is destructive of vegetation; and in these heights in the mountains, the earth is desart and barren *.

The least change in the wind also to the West, or South, from the Eastern points, whence, by its constantly blowing, the body becomes naturalized to it, though there shall be no difference found by the thermometer, whatever, is instantly felt, with languid, heavy, and feverish impressions; similar to those produced by the Sirocco wind in Italy.

In this state of body, heat, which has destroyed the tone of the nerves, and graduated the fluids to its own standard, is necessary for existence; but it must be uniform: and one of the reasons that the rains are so fatal between the tropics is, that they increase both the heat of the day, and the coldness of the night; and make more variety in the atmosphere then, than there is at any other time.

---

* See p. 8.

Heat and moisture, uninterrupted, are not the cause of so much mischief as is attributed to them; for they carry a powerful remedy with them, which is perspiration. The mischief they produce is, that they dispose the body to the slightest impressions from cold; and, however paradoxical it may appear, cold is the cause of almost all the diseases in hot climates, to which climate alone is accessary.

It is true, that the thermometer has shewn much higher degrees of heat in the shade, without the tropics, and that there are greater transitions from heat to cold on certain days in many countries, and particularly on the continent of North America, than ever happened between the tropics. — In *Rome*, on the 3d of October, 1787, the thermometer, at six o'clock in the morning, was at 75°, in my chamber window; and on the following morning, at the same hour, and in the same place, it was down at 55°. This difference was occasioned by a torrent of rain which fell, for there was no change in the wind; that being on both days from the South.

On the 25th of January 1795, at nine o'clock in the morning, the thermometer, at the North aspect of my apartments in Chelsea Hospital, was at 4°; and on the following morning, at the same hour and place, it was up at 20°; and the next morning at 44°. — Here the difference was occasioned by the wind, changing from the North to the South.

Such transitions never happen between the tropics.

In America, though natural transitions are prejudicial, yet the Indians find artificial transitions otherwise. Their remedy for a cold, fever, ague, or rheumatism, is to sweat themselves severely in their sweating stoves, or ovens, for some time, and then to plunge, while sweating, immediately into a river, or cold water, even in the depth of winter. This is also a practice in *Finland* and *Russia*. The Indians, in hotter climates, bury themselves in the hot sand to sweat themselves, and then plunge into cold water.

When I was at *Lausanne*, in 1786, the candid and liberal Tissot told me, that the transitions from heat to cold are there sometimes so great, by sudden changes of the wind from *Mont Jura*, that invalids, and convalescents, feel considerable ill effects from them; and that in pulmonic disorders, those changes have produced the most dangerous consequences.

An eastern wind in England is perceived by invalids in their very beds. Sudden changes and transitions, in every climate, are prejudicial to the human frame. In temperate climates, their influence is exerted chiefly on the weak, the relaxed, and the aged.—In hot climates, every person is weak and relaxed; and infirmities, that are unknown in temperate regions, where the varied seasons correct each other, until long life has exhausted the vital flame, here make their unwelcome visits to people of every age.

An hot and moist *Sirocco* wind, immediately succeeding a cold dry *Tramontana*, in some situations in Italy; and the cold sharp *Mistrau*, and *Bise* [*], in many parts of the South of France, and in the neighbourhood of the Alps, have, to my knowledge, destroyed several, and injured a multitude of debilitated people, who have been injudiciously placed, or carelessly exposed, when sent thither from other parts of Europe, for their health.

---

[*] A *Sirocco* is a S.E. by S. wind; a *Tramontana*, N.N.E. wind; a *Mistrau*, or Mistral, as it is called in Provence, is the Italian *Vento Maestro*, or N. W. wind; a *Bise* is a N.E wind.

The thoughtless custom in England, of sending people in the latter stages of diseases to those countries, from their friends and families, annually receives the tribute of many lives, from these and similar causes. Towns in warm situations, within the reach of winds from the Alps, and other gelid mountains, at some seasons of the year, are also graves to people who go to them in decays of the lungs. For such scrophulous and consumptive disorders as are endemics of our atmosphere, sea voyages should be made, or small islands, remote from continents, resorted to, where the air, purely marine, is unclogged with vapours from the land, and where the climate is not only warm, but uniform; such as *Madeira* *: or others in still warmer latitudes, which I have sometimes known, when the disease had not too far advanced, to answer better.

Change of climate is undoubtedly necessary in all chronical diseases of the lungs; but there are few other diseases that originate in England, in which the climate of England, of which there is great variety*, according to local circumstances, with change of place, and horse-back exercise, is not equal to any other. Foreigners have an erroneous notion of the climate of England. Perhaps our atmosphere is not mild enough for the tender fibres of weak bodies; and for broken constitutions, where a decomposition of the frame has begun to take place.—But, take it for all in all, the climate of England is the best on the habitable globe.—For by what comparison is a climate to be estimated, which produces such a race of people as the Engliſh, and in which almost every species of animal arrives to the utmost perfection?

---

* *Funchal*, the capital of Madeira, is in N. lat. 32° 33′. W. long. 16°.—The medium heat in Madeira is 65°½: and the medium difference of variation 3°⅕.

The *Cœli mutatio*, or change of climate, so much commended by Celsus, and the best antient writers, is a very different thing from sudden and uncertain transitions in the same climate; and must ever be attended with the greatest advantages, in all diuternal disorders: and particularly in those of the endemial kind, or such as are united with some constitutional defect, or any hereditary, or endemical taint. And though consumptions of the lungs, the principal, and most destructive endemic of England, is rarely an intratropical primary disease, yet it is frequently a secondary and consequential one, and requires the same expatriation: for the remedy is seated in the air which we breathe, and that surrounds us, and is, in my opinion, the same in every part of the world.

---

* The softness of the atmosphere, in general, and the mildness of the seasons frequently, in the western parts of England, particularly at *Pensance* in Cornwall, cannot be conceived by those who have resided in the eastern districts only.

I have often known inveterate *Lues Venereæ*, particularly when seated in glandular parts, that could not be subdued by medicine in England, yield to the climate of the West Indies without any medicine whatever.

This corroborates a curious fact concerning the *Lues Venerea* related by LEO AFRICANUS (who died in 1526). He says, " if any of Barbary be
" infected with this disease, they die thereof for
" the most part, and are seldom cured. This
" diſease beginneth with a kind of anguiſh and
" swelling, and at length breaketh out into
" sores. Over the mountains of Atlas, and
" throughout all Numidia, and Libia, they scarce-
" ly know this disease; insomuch that oftentimes
" the infected travel forthwith into Numidia, or
" to the land of Negroes, in which places the air
" is

" is so temperate, that only by remaining there
" they recover their perfect health, and return
" home sound into their own country; which I
" saw many do with mine own eyes; who, without
" the help of any physician or medicine,
" except the aforesaid wholesome air, were restored
" to their former health."

LEO further remarks, that, " not so much
" as the name of this malady was ever known
" unto the Africans, before FERDINAND the
" king of Castile expelled all the Jews out of
" Spain; after the return of which Jews into
" Africa, certain unhappy and lewd people lay
" with their wives, and so at length the disease
" spread from one to another, over the whole
" region; insomuch that scarcely any one family
" was free from the same. Howbeit, this
" they were most certainly persuaded of, that
" the same disease came first from Spain;
" wherefore they, for want of a better name,
" call it the *Spanish disease.* Notwithstanding
" at Tunis, and over all Italy, it is called the
" *French disease.* It is so called likewise in
" Egypt and Syria; for there it is used as a
" common proverb of cursing—*the French disease
" take you.*" POREY's ed. p. 38.

It is remarkable, that original consumption in particular, should so often become incurable by reliance on regimen, or medicine; when it always gives sufficient warning, and time, for quitting the country, whose atmosphere was the cause of it. Physic will certainly, in acute diseases, do much:—but what medicine can change the nature of climate, or the peculiar organization of a body, to which it is obnoxious?

Reason, without the aid of medical light, suggests, that the remedy for an endemic of a moist atmosphere, is a dry one;—of an hot, a cold one;—of a light, an heavy one; of an inland situation, a maritime one; and the reverse, when circumstances are reversed.—But the change must be graduated to the constitution; and also to the state of the disease: for, when that is far advanced, extremes are fatal.

CELSUS recommends a thick air, when the disease originated in a thin one; for which reason he sent the consumptive of Italy to the more dense atmosphere of Alexandria*: where the Romans chiefly resorted in pulmonic diseases. But PLINY, in one place, attributes the principal benefit that arose from this practice, to the air of Egypt being impregnated with the teribinthinous effluvia from the pine forests†;

---

* Lib. III. cap. 22.

† Lib. XXIV. cap. 6. Hist. Nat.

and in another place, to the length of the sea-voyage: and says, that ANNEUS GALLIO, having a spitting of blood, went thither on that account *.

GALEN advises *Tabiæ* †, as a residence for Roman consumptive people:—the air of which place, besides the restorative quality of the milk it affords, I believe to be an admirable contrast to the moist heavy air of Rome, and the Campania.

After extolling the milk of *Tabiæ*, the excellence of which, he says, arose from the dryness of the air, the goodness of its pastures, and the abundance of balsamic and healing herbs that grew there—which herbs also, he says, imparted a salubrious quality to the air—he proceeds to describe the advantages of its situation. He says, "It is moderately high, and something "more than thirty furlongs from the sea, which "it fronts; and is situated near the deep part "of the bay, between Surrentum and Naples, "but nearer to Surrentum. The side of the "hill is large, extending in length to the sea,

---

* Lib. XXXI. cap. 6. Hist. Nat.

† This place at present is called *Stabia* by the Italians; it is a little village not far from *Pompeia*, on the N. E. side of the bay of Naples.

"not intirely to the south, but a little inclining "to the west; and is defended from the nor- "thern and eastern winds. It is near Vesu- "vius; the fires of which greatly conduce to "the dryness of the circumambient air. There is "neither stagnant water, nor marsh, nor any "river of consequence in its neighbourhood. "Vesuvius defends it from the north winds; "and the cinders, and other materials which "are emitted with its fires, being blown thence "towards the sea, by those winds, contribute "to dry the air *."

After

---

* I do not know how far the adjacent country to Vesuvius might, in GALEN's time, be effected by it;—but at present, unless at the time of a great eruption, there is very little change to be perceived in the air, until near its top: round the summit of which, there is a thin covering of flowers of sulphur, of a deep yellow, and in some places of an orange colour, precipitated from the vapour that is thrown up from the internal fires. The vapour itself smells strongly sulphureous, and produces a sensation similar to the evaporation of spirit of salt, or aqua fortis: it is so powerful, that, in looking down into the crater, I have been nearly suffocated. Breathing through an handkerchief, is the practice of the *Ciceroni della montana*; and I found it enabled me to stay longer on the top than I could otherwise have done. My watch-chain, being of highly polished steel, was instantly turned black on the top of the mountain, and continued afterwards of a yellowish, rusty, bronze colour. The thermometer, at *Resina*, and at the base of Vesuvius, was 73°; and on the top of Vesuvius, which is about 1312 yards above the level of the adjacent

After this judicious description, that great man, soaring above the narrow limits that terminate the views of common minds, says, "any "elevated situation, in any other temperate "climate, dry as this is, not far from the sea, "neither so near as to be exposed to the vio- "lence of its winds, nor so low as to be sub- "ject to receive the vapours of any low grounds, "not fronting the North, not yet too much ex- "posed to the meridian sun, may produce the "same salutary effects; but for the improve- "ment of the milk, and meliorating the air, "the grounds should be planted with salubrious "herbs and fruits: such as Agrostis, Lotus, "Polygonon, Melissophyllon, Lentiscus, Arbu- "tus, Rubus, Hedera, Cytisus," &c. *

---

adjacent sea, it was 65°. This was on the 28th of September, 1787, at noon.

The most terrible eruption of Vesuvius happened before GALEN's time, in the year 79, and in the reign of TITUS; when the cinders were carried by the winds, not only to Rome, but to Africa and Ægypt. The fishes were destroyed by the heat of the sea in the bay of Naples; the birds were suffocated in the air: the celebrated and antient towns of *Stabia* and *Herculaneum*, and also *Pompeii*, while the people were in the theatre, were covered with cinders. It was at this eruption that PLINY the historian lost his life. He commanded the Roman fleet at *Misenum*; and went to examine the cause and progress of the conflagration: but, by approaching too near, he was suffocated, close by *Herculaneum*.

* Θεραπευτικης μεθοδȣ, Βιϐλιον ε.

Besides maritime situations, long voyages, change of climate, and milk diet, the ancients were also solicitous concerning exercise, gestation, and motion, in consumptions; the degrees and modes of which, applicable to various other diseases, were proportioned to the strength of the patient *. — But they err exceedingly who attribute to the motion of sailing, the benefit which is often derived in different diseases, from sea-voyages, and which I believe depends solely upon the sea air. It is from the "aer purus," in the "navigatio longa †;" the "vitæ in mari traductio ‡;" the "vita in mari acta §;" the "vita in mari degitur ||," from whence the benefit arises.

The motion of a ship produces no other effect than sickness; which, as PLINY ¶ and ORIBA-

---

* CELSUS, Lib. II. cap. 15. Lib. III. cap. 22. GALENUS de Sanitate Tuenda, et variis aliis Locis. ORIBASIUS, Med. Collect. Lib. VI. CÆLIUS AURELIANUS de Phthisica Passione, ALEXAND. TRALLIANUS, Lib. X. H. MERCURIALIS de Arte Gymnastica, &c. &c.

† CELSUS, Lib. II. cap. 15. Lib. III. cap. 22. Lib. IV. cap. 4. CÆLIUS AUREL. de Phthisica Passione, ORIBASIUS, Lib. VI. c. 23. PLINIUS, Hist. Nat. Lib. XXXI. c. 6.

‡ ARETÆUS de Curat. Diuturn. Morb. Lib. I. c. 1.

§ ARETÆUS de Curat. Diuturn. Morb. Lib. II. cap. 3.

|| Ibid. de Curat. Phthisis.

¶ Lib. XXXI. cap. 6.

sius * observe, is such as is produced by *Hellebore.* But this effect is generally over in a day or two; and does no other service than what arises from agitating the body, and cleansing the first passages. Sea-sickness, like any other sickness of the stomach, by lessening the action of the heart and arteries, at first diminishes hectic heat; but, when it continues long, it produces mischiefs, which I have already mentioned †.

It is also the effect of very superficial observation, to assert that sea air, or sea-side air, is detrimental in pulmonic diseases; — or that sea air, or sea-side air will invariably cure them; — or not to know that sea air, and sea-side air, may be very different things, — the latter, often vitiated by situation; and by winds, at particular seasons of the year, from contiguity to other countries, and from passing over marshes, and other unwholesome places: — as at *Hieres*, near *Toulon*, which is, at some seasons of the year, a situation favourable to weak bodies, — at others, pernicious.

It has ever been the practice of physicians who studied nature, to remove their patients to situations, opposite to those, in which their diseases originated;—from land, to sea;—from sea, to land;—from mountains, to valleys;—from valleys, to mountains: and to remedy local diseases, by local contraries.

---

* Lib. VI. cap. 23.

† Page 19.

Change of climate has often caused a great revolution in the habit, and has performed miracles in diseases, without any intrinsic superiority in the air of the spot resorted to.

Montpellier, that most salubrious place, to people from distant countries, is not remarkable for the health, or beauty, or longevity of its native inhabitants; and has been often afflicted with violent epidemical diseases. I have observed at *Montpellier*, that patients coming there, in pulmonic diseases, generally benefit exceedingly at first; and as generally remain stationary afterwards. Having ascertained this fact, I have warned those, whom I have sent thither, not to despair, if, flattered by a great change for the better at first, they should afterwards find their complaints at a stand; nor to relinquish the hopes of recovering, if the good effects of that climate, after a time, should begin to abate. In such cases I always advise them to quit *Montpellier* for a while, and go to *Avignon*, or to *Aix*, or to *Marseilles*, and return after a little absence to *Montpellier*. From such changes, and moving about (for neither the same air, food, nor medicine, continues to agree long with consumptive people), I have found the most salutary consequences *: — especially when the patient has been able to vary his situation, according to SYDENHAM's advice, on horseback †.

In the preceding observations, I am aware that I have prescribed only for the affluent: — and it is with concern I see, and have often seen, the fate of the indigent, in pulmonary consumption. — It is a disease in which there is no remaining upon the spot where it originates; and, unless taken in the very beginning, of doubtful cure, under all the advantages I have enumerated. — It is a disease, neither of vice, nor intemperance; sometimes of accident:

---

* *Peregrinatio*, or travelling, is strongly recommended by CELSUS, Lib. IV. cap. 4. *Zozimus*, PLINY the younger's freed-man, was cured of a spitting of blood by long travelling in Ægypt, to which place his humane master sent him from Rome.—Epist. XIX. Lib. 5.

† ÆTIUS and ORIBASIUS had a different opinion of horseback exercise: the former, Tetr. I. Serm. 3. cap. 7. says, "Pectori pessimum est;" and the latter, Med. Collect. Lib. VI. cap. 24, says, "Thoraci infensissima est."—Horseback exercise is, doubtless, improper, while pain, or inflammation, or plethora is present.

but, in general, from a variance between the organization of a body, and the climate wherein it is placed.—Yet, unless there shall be some extreme defect in the formation of the thorax, nature has not denied a cure; but it is that hard ordinance which proscribes those their native countries, who never offended her laws:—an ordinance that has no consideration for the poor.—*Cœlum ſugere, quod ſecit malum.*

Diseases of climate must ever remain: but there is no climate in which some diseases are not acquired that might be avoided: and there is no climate in which so much care and circumspection are required to secure the body from diseases, and where they are so violent and rapid, as that which is the subject of the present consideration.

The ridiculous notion that people are to die of putrid diseases in hot climates, unless they keep up their spirits, and embalm their bodies, by the assistance of an additional quantity of wine, strong liquors, and living well, as it is vulgarly called, has caused the death of thousands.

Another almost equally pernicious practice, from the same notion of putrefaction, among new-comers, is, to devour great quantities of fruit, and to drench themselves with acid drinks; but if they escape a flux, they destroy the tone of the stomach, and are soon left without either appetite or digestion.

Some people heat themselves by too much exertion, or by violent exercise in the sun: and, when heated, expose themselves to get hastily cooled. Others expose themselves to rain; or walk in wet grass; or sit long in the night-air; these are causes of great mischief.

Festivity, the resource of men, and dancing, the resource of women, are customs much practised in the West-Indies: and hospitality, which there knows no bounds, sometimes makes her kind offices and amusements dangerous to her friends. New-comers have no business at feasts, or at balls*.

There is, in the inhabitants of hot climates, unless present sickness has an absolute controul over the body, a promptitude and bias to pleasure, and an alienation from serious thought and deep reflection. The brilliancy of the skies, and the levity of the atmosphere, conspire to influence the nerves against philosophy and her frigid tenets, and forbid their practice among the children of the sun.

---

* In the early part of the History of Barbadoes, it was very common at a Planter's feast, for the company to drink a thousand or twelve hundred bottles of wine,—Claret and Madeira. *Friendly Advice to the Gentlemen Planters,* &c. p 53. Anno 1684.

The means of preventing diseases in hot climates, are founded on the same principles as the means of preventing them in every other climate. The theme has been much worn by divines, philosophers, and physicians.

If *Temperance* had not so many powerful adversaries to contend with, in the numerous relatives to sensuality, every person would be healthy. The young would be so from present, and the old from past, observance. But there seems to be such a variety of claims in the body, each nerve contending for its portion of pleasure, that reason is often lost in the conflict, and driven from her throne by the anarchy of passions.

By keeping the body quiet, and cool within, as well as without, the first object of seasoning in hot climates will be attained; which is, to moderate the action of the solids, and to diminish the volume and density of the fluids. Thus the serum of the blood is neither heated, nor rendered acrid; less thirst is excited, and also less perspiration: by which means both the risque, and the danger of checking perspiration suddenly, are obviated.

Living in an house with lofty and spacious rooms, in a dry situation; keeping within doors as much as possible during the middle of the day; never travelling on a full stomach, or when heated with wine; avoiding the night air in general, but in particular after travelling much, or having been much exposed, on the same day in the heat of the sun; never sitting down, or remaining in a current of air, with wet linen on, or when much heated; nor suffering the body to cool suddenly, by unbuttoning or throwing off the coat, or any other part of the dress; never going out when it rains, and if by accident overtaken in it, to get as soon as possible to bed, and remain there an hour or two, first putting the feet in warm water, and drinking a basin or two of warm tea; pursuing some amusement in vacant hours from business, that is not fatiguing, and that does not agitate the mind; going to bed, and rising, at early hours; taking much rest, for that is necessary; sleeping as coolly as possible, but never upon a ground floor if it can be avoided; using gentle exercise early in the morning; drinking but little wine, and that Claret or Madeira, but no spirituous liquors, nor punch, for acids are, in the end, destruction to the stomach; eating light food of easy digestion, roasted in preference to boiled, and of whatever sort best agrees with the stomach (for those countries have great variety of luxuries, as well as necessaries of life); using but little butter; vegetables well boiled; fruit sparingly; tea or coffee for breakfast; avoiding suppers; with now and then taking a dose of salts, and making that day, a day of abstinence, are the best cautions, and precepts for health, that I can give.

I dare not recommend cold bathing; it is death with intemperance, and dangerous where there is any fault in the viscera. It is a luxury denied to almost all except the sober and abstemious females; who well know the delight and advantage of it. Indiscriminate bathing has been fatal to several men whom I remember, that used it, to add pungency to the appetite of voluptuousness. People must be temperate in their way of living, and free from obstructions in the viscera, who bathe. Therefore, I believe it will not accord with either the habits, or situations of many.

When I recommend drinking nothing but *water* in hot climates, as the most certain insurance of health, I expect to have but few disciples to embrace my doctrine, especially among those that have most need of it;—who are such as have broken down their constitutions by intemperance at home. Nor will it receive much support from the crude and indigested notions of those, who think, "that the most abstemious "and temperate persons often die soon, in unhealthy countries, as well as the irregular and "debauched *." But I aver from my own knowledge, and custom for several years, as well as from the customs and observations of many other people, that those who drink nothing but water, or make it their principal drink, are but little affected by the climate; and can undergo the greatest fatigue without inconvenience. There are habits of body to which water-drinking may be objectionable; but that can scarcely ever happen among young people, and those of a plethoric, or of an inflammatory tendency.

Whatever mode of living may be proper after people have lived long in hot climates, and when, perhaps, by having been frequently diseased, the inflammatory diathesis of the body is past, while it remains (as it will with some people for many years), those who use water for their common drink, will never be subject to troublesome nor dangerous diseases. The greatest inconvenience I know, attending water-drinkers is, that their appetite is generally so keen, that they often eat more than they ought.—An occasional oppression at the stomach thus created, is best relieved by three grains of *Aloes*, or a few grains of *Rufus's* pill, where those medicines are not exceptionable, made into a pill, and taken at bed-time.

---

* Lind's Essay on Diseases incidental to Europeans in Hot Climates, p. 8. edit. 3.

The gratefulness of cool liquors in hot climates, is among the first sensations of luxury. A glass of water, or wine, that has been much cooled, produces a very different effect on the stomach, as well as on the palate, to what either does in an equal state of heat with the atmosphere. A late discovery for generating ice, from an artificial frigorific composition, will be of great benefit in tropical countries: as there is no place so situated, where this composition will not afford so much instantaneous refrigeration as can be required, either for the purpose of medicine, or for the luxury of the table.—The preparation is as follows.—

Take Oil of Vitriol, and Water, of each an equal weight; or by measure 1 and 4-5ths of Water, to 1 of Oil of Vitriol. Mix these together, by adding the oil by degrees. Let this mixture, which will be very hot, stand until it is cold; and after it has been so for several hours, or longer,—take fourteen ounces of it, and dissolve in it sixteen ounces of Glauber's salt powdered:—add the salt by degrees, and stir it, until it is dissolved. This quantity will serve to cool one bottle of any liquor, at a time, and the same proportion is to be observed for any other purpose. The salt must be kept from the air, before, as well after, it is powdered, that is intended for this solution:—for when it has acquired that white appearance which Glauber's salt will do by long keeping, and by being exposed to the air, it is unfit for this process. The solution of the salt should be made in a thin glass jar, and whatever is intended to be cooled by it, is to be put into it, in another thin vessel. It may be made in an earthen or wooden vessel, but the thickness of these vessels diminishes the coldness of this solution. This solution, made in the most accurate manner, has sunk the thermometer from 62° to 10°, a reduction of 52 degrees. When much refrigeration, or congelation, is required, it is necessary to make two or more solutions, and put one in a very thin tin, or glass vessel, into another. But in a common way of making it, and in almost any vessel, it will reduce the thermometer forty degrees, and will be some hours before it returns to the heat of the atmosphere, when the coldness is not taken often, by the refrigeration of bodies, immersed in it. But the greatest degree of coldness is at the first instant the salt is dissolved.

Though there is abundance of excellent water in most of the West-Indian islands, particularly in Jamaica, in which there are also springs of powerfully hot sulphureous, and cold chalybeate, waters; yet for the common purposes of life, it is an article of too much consequence to health, not to merit the greatest attention in the choice of it, in respect to its pureness from any vegetable, metallic, or saline property: and its transparency and levity, from not being loaded with terrene matter.

Mineral and brackish waters may easily be distinguished by the taste: and water that is so situated as to receive the leaves of trees, and vegetables, unless it be in a very rapid stream, should never be used.

Individuals are not so likely to be distressed as navies and armies; to which great misery has often arisen on this account.

Voyages and expeditions, in different parts of the world, are full of recitals of this sort.

The English troops, during the siege of the Havannah, in 1762, suffered greatly from bad water. The people, during the siege of ORMUS, in 1622, according to MONOXE's Journal, were terribly afflicted with the bloody flux, from drinking brackish water. The Earl of *Cumberland* lost six hundred men out of the thousand which he landed at *Puerto Rico*, in 1597, by the same disease; and principally, it is said, from the same cause: between the 6th of June, when they landed, and the 14th of August, when the survivors departed from the island. *Port Louis*, in the Isle of France, has been several times nearly depopulated by the bloody flux, before the great river water was brought down there: and in all the colonies, both in the East and West-Indies, there are towns which suffer great inconvenience from their founders not having duly considered the importance of good water, before they began to fix their habitations.

The English drink more wine and spirits than the French; the French more than the Spaniards; and we calculate the mortality of each, by this rule. The Spaniards live to great ages in the plains of *St. Jacques*, *Còtuy*, and *Beque*, in St. Domingo; partly from the salubrity of the air, but chiefly from their sobriety.

Our troops in the West-Indies are killed by drinking new raw rum; and so are the lower order of mechanics, and white people on the plantations.

The consequence of drinking rum and water, or *Grog*, as it is called, is, that habit increases the desire of more spirit, and decreases its effects; and there are very few grog-drinkers who long survive the practice of debauching with it, without acquiring the odious nuisance of dram drinkers stercoraceous breath, and downright stupidity and impotence.

Rum and water is an wholesome beverage; and when taken in moderation, and made very weak of rum, it is perhaps, for laborious people, the best liquor to quench their thirst with: for rum is a great corrector of water, and promoter of perspiration. But the excess of the proportion of the rum to the water, should be guarded against, by those who intend to preserve their health, with the utmost watchfulness. A man who is determined, either by choice or necessity, to drink rum and water, should keep a jealous eye on his measure; that once violated, his palate becomes vitiated: and if reason be not exerted to prevent, it will seldom be found equal to the task of correcting an habit, established on the ruins of fortitude.

Soldiers collect their rations of rum, or sell their provisions to buy it, until they have got a sufficient quantity to debauch with. If they drank in a regular manner, and well diluted with water, the quantity of rum alllowed them, and no more, and that of good quality, it would do them no injury: but this is not the case, nor ever can be in the West-Indies, while they are quartered in towns.

If the native white inhabitants of the islands were not inclined to temperance, which they are in an eminent degree, the drunkenness of the slaves, with its cadaverous effects in their aspects, and the shocking pollution of their manners, would render the vice of intoxication so odious, that pride would revolt at a practice so debasing to body and mind. Here are examples that would have deterred the Spartan youth, without any trouble to their parents.

The Creole women seldom drink any thing but water. This they carry to excess; and many of them require wine, which from the want of habit they cannot drink. They live, in general, as long as the inhabitants of Europe; and though they are subject to nervous complaints, they are seldom to such as are dangerous: and to inflammatory diseases, partial ones excepted, scarcely ever.

They injure their nerves by not taking sufficient exercise, and by using too great a quantity of acids, salted meats, vegetables, and fruits; and this crude diet makes the necessity for the pernicious, and customary large addition of peppers.

Acids, in every climate, create costiveness, endanger the sweetness of the breath, and are fatal to the organs of digestion. It is to this cause, principally, that I attribute the insuperable sourness in the stomach, the coldness of the skin, and partly the pallidness of the complexion, of the inhabitants of hot climates.

The natives of the French islands drink such quantities of lemonade, with their cold acid, vegetable diet, that they sometimes are suddenly seized with a total loss of appetite and digestion; which is followed by an imbecillity of the whole body, from which they never recover.

HILLARY says, "the common sweat, even "of persons who are well, when tasted in the "West-Indies, is so very salt and acrid, that "it tastes like the salt or spirit of hartshorn "mixed with water*."

I cannot say I have often found this remark verified; but, generally, on the contrary, from the climate being unfavourable to animalization, the sweat has a nearer affinity to the spirit of vinegar. All the fluid excretions, in habits not bilious, are impregnated with an acid acrimony; and the sweat is to so great a degree, generally, that the rooms of sick people smell like the steam of acid preparations: and I have always observed, that the use of aromatic scents, and the burning of fragrant woods and herbs, were more refreshing to the patient, and cleansing to his chamber, than the sprinkling of vinegar, and the use of acids.

---

* Introduction, p. 6.

The idea that every thing in hot climates inclines to putrefaction, by the alkalescent disposition of the animal juices, while life remains, appears to me to be totally void of foundation. If bile be prone to alkalescence, milk, lymph, and chyle, are prone to acidity,—and all habits are not bilious. It is certain, that putrid fermentation is soon excited after death; but there are no pestilential, nor contagious fevers, at least in the islands: either because the air is impregnated with a subtile acidity drawn from the sea in these islands, which accounts for many phænomena attributed to moisture only *, or that it is so rarefied as to prevent that aggregation and condensation of miasma, by which it cannot acquire quantity, or force, sufficient to inflict diseases, and is divided, broken, and dispersed through the air, in impotent solution.—Besides, the atmosphere, by regular winds, is in constant agitation, and there are no calms of sufficient duration to make any malignant exhalation stationary.

---

* Siccissima in his locis (Java) anni tempestate ferrum, chalybs, æs, argentum denique, citius rubiginem et æruginem contrahunt, quam in Europa pluvioso ac autumnali anni tempore. BONTIUS, *Dial. Primus.*

Aër in America adeo efficax rodendo, ut metalla fere omnia consumat, ut de aëre Bermudensi Britanni testantur. BOERHAAV. *Chem. Tom. I. de Aëre.*

Much has been said by writers concerning malignant and putrid fevers; and the tendency of all fevers to putrefaction, in hot climates. But such opinions are not founded on practice, however they may seem to agree with theory.

The great endemic there, is the *Nervous Remittent Fever*, which is unattended with any putrid symptoms, and which has its seat in the nervous system; or, as I have often thought, in the brain itself.

I scarcely remember to have seen a fever accompanied with petechial, or purple spots, in the West-Indies, where the circulation had not been forced with cordials and hot regimen; and it is very uncommon to find the parts livid, or gangrenous, where blisters have been applied, unless when the patient has not been properly evacuated in the beginning of his disease: or in some gross habit, where the solids and fluids were previously in a state of disease and corruption.

Perhaps, the position, that sizy blood, and inflammatory diseases, occur oftener than otherwise, in hot climates, is nearer the truth; and are the general produce of all, excepting autumnal months: in which intermittents reign, and debility characterizes diseases.

In the vicinity of *Kingston* in Jamaica, in the months of January, February, and March, in the year 1779, there was not one shower of rain; and the sea-breezes were violent. The disease prevalent, was rheumatism. Of the many hundreds whom I bled, during those three months, and the following one, there was not a person of either sex, or of any colour, whose blood was not sizy.

In all hot climates, females arrive at maturity earlier, and they also sooner decay, than in cold climates. In youth, obstruction of the menses is more frequent, and greater inconveniences follow their temporary suppression here than in other climates; but less uterine mischief attends the final cessation of menstruation. The ceasing of this discharge, though at the advanced and natural time of life, in every climate, causes a revolution in the habit that is attended with danger; and constitutes the most critical period of a woman's life. Bleeding, in a small quantity, a few days before the accustomed time of the return of this evacuation, for many months, after the first cessation, is the only general remedy, for indispositions occasioned by it, which can be advised.

In Europe, there are many instances recorded of women bearing children, and living to great ages in undisturbed health, who never menstruated *.—I had a patient, a young woman, lately in Chelsea, who never had her menses, in the natural way. She had a large ulcer on one of her feet; and for two years regularly menstruated at the wound. She was otherwise in perfect health. I know another at this time, who has been obstructed for many years; during which time she has had a regular monthly discharge of blood from her lungs: and is a strong healthy woman.

Though females do arrive at early maturity in hot climates, there are none of those wonderful instances of early pregnancy in the West-Indies, that travellers speak of; and such as are said to have happened in other parts of the world.

But, if menstruating be the criterion, as most authors affirm, of the capability for pregnancy, I have known many instances of infantile menstruation in the West Indies, and also in England; and am now acquainted with a gentlewoman and her daughter, who both began to

---

* Fernelius. Trincavelli. Rondeletius. Brasavolus.

menstruate at eight years of age. The daughter is still young; but the mother ceased to menstruate in her thirty-fifth year.

SAVONAROLA mentions a girl who was pregnant at nine years of age[*]; JACOBUS FOROLIVIENSIS, one of eight years old[†]; and DESPARS, in his comment on AVICENNA, that he saw a girl at *Tournay*, who at the age of nine years had already a child[‡]. PLINY says, in India the *Calingian* females conceive at five years old; and the *Mandri* at seven[§]. Many other tales of this sort are collected by marvel writers.

After such extraordinary events, it cannot appear improbable, that a young lady, as I was informed, at *Aix*, in the South of France, in 1786, was then pregnant in the twelfth year of her age.

Such instances as even this, though uncommon in the Western world, and among the ancient Lacedemonians, were not uncommon among the Athenians, Thebans, and Romans. Policy, which has converted the early exercise of the natural passions to advantage in some states, has made it disgraceful in others.

---

[*] Tract. 6. c. 21.

[†] Expos. in AVICEN. de Gen. Embr.

[‡] Fen. 20. tr. 1. c. 12.

[§] Lib. VII. cap. 2.

History furnishes some instances of remarkable fœcundity in extreme age, that are never to be met with in the West-Indies.

VALESCUS *de Taranta* knew a woman who had a child at sixty-seven *; and CARDAN mentions another, who had a child when she was more than eighty †. PLINY says, that *Cornelia*, of the family of the *Scipios*, brought forth a child in her sixty-second year, which child was afterwards the consul *Volusius Saturnius*: and that among the common people, even the age of eighty-five afforded such prolific examples.

PLINY also says, that *Masinissa* had a son born to him after he was eighty-six years of age; and that CATO the censor had one at the age of eighty ‡. SAVONAROLA asserts, that *Nicholas de Pellavicinis* had a son in his hundredth year §. ALEXANDER BENEDICTUS knew a German who had one in his ninetieth ‖; and LEM-

---

* Philon. Pharmac. & Chirurg. p. 662, ed. 1680.

† De Variet. Lib. VIII. c. 44.

‡ Lib. VII. cap. 14.

§ Tract. VI. c. 21.

‖ De Curand. Mort. l. 25.

NIUS mentions another, who, at the age of an hundred, married a woman of thirty, and had a numerous offspring by her *.

The celebrated physician Felix PLATERUS, who died at Basle in 1614, says his father married when he was seventy-two years old, and had six sons; and at the age of eighty-two, his wife bore him a daughter. He mentions also that his grandfather had a son in the hundredth year of his age †.

However, though such things are neither within my knowledge, nor scarcely belief, the father DUTERTRE says, a savage Caribbean woman, of eighty years of age, had a child at *Guadaloupe:* and he mentions an instance of another, who was supposed to be upwards of an hundred years old, that became pregnant, "par un jeune "garçon François ‡."—I do not know whether this *jeune garçon* was as young as the *garçons* mentioned by Saint GREGORY §, and Saint JEROME ‖; — the former relates that a boy had a child by his nurse at the age of nine years; and the latter that he had heard of the same thing by a boy of ten.

---

* Lib. IV. c. 24, de Occult. Nat. Mirac.

† Quest. Physiolog. No. 38.

‡ Tom. II. p. 380.

§ Lib. IV. Dialogorum.

‖ Epist. 32. ad *Vitalem Presbyterum*.

In our military Invalid Hospital at Chelsea, we are not without frequent examples of gallantry, and marriage, from our Pensioners, at the age of eighty and ninety.

Hot climates are indeed very favourable to gestation and parturition. Difficult labours are not common; and children are generally born healthy and strong; and thrive more than they do in temperate climates, for a few years, and are not subject to the rickets, nor the scrophula: after which they generally get into a flaccidity of muscle, and acquire a paleness that characterises their future complexion.

Women soon recover from lying-in; and Indians and negroes often make it an affair of a few days, and sometimes of a few hours only, and then pursue their occupation.

If climate had not a considerable share in the success of the event, a remarkable occurrence happened within my knowledge, in which ignorance and resolution reduced an operation, supposed of great difficulty and danger, to a supposition that there is neither difficulty nor danger attending it: at least when judiciously performed.

In the year 1769, a *negro woman* (belonging to Mrs. *Bland*, a midwife), at Mr. *Campbell's* grass-plantation at the *Ferry*, between *Kingston* and *Spanish Town*, in Jamaica, being in labour, she performed the *Cæsarean operation* on herself, and took her child out of the left side of her abdomen, by cutting boldly through into the uterus.

She performed this operation with a butcher's broken knife, about two inches and an half long,—the part which joined to the handle. The position of the child was natural; she cut through near the *linea alba*, on her left side, and cut into the child's right thigh, which presented at the part, about three lines deep, and two inches and an half long. The child came out by the action of his own struggling. A negro midwife was sent for to her, who cut the navel cord, and freed the child; and returned the part of the navel cord adhering to the placenta, and a considerable portion of the intestines also, into the abdomen, which had come out at the wound with the child.

The surgeon who attended the plantation was sent for, a few hours after the accident happened; and judging, from the situation in which he found her, that some dirt had been put into the wound, by the old midwife, with the intestines, he cut open the stitches that had been made, and carefully washed the parts clean, extracted the placenta at the wound, and then stitched it up again.

On the third day after she had recovered from her low state from the loss of blood, which was considerable, a fever came on, which was removed by cooling medicines; she then took bark for ten days. The wound was fomented and dressed properly, and was soon cured; and the woman was well in six weeks time from the accident, and able to go to her work.

The child died on the sixth day, with the *Jaw-falling*, as it is called; but came into the world healthy and strong.

The woman continued perfectly well, menstruated regularly, and was with child again a year or two afterwards.—She attempted the same operation again; but was watched and prevented, and had a regular and proper labour. She had borne three children before this affair, all with natural and easy births. She was an impatient and turbulent woman, whose violence of temper was the only cause assigned for her conduct.

It is not uncommon, either in the West-Indies or in Africa, to see white children, or white negroes, as they are called, from black parents.

Mrs. *Jones*, in Spanish Town, in Jamaica, when I was in that island, had a boy, whose father and mother were black, that was perfectly white, with white woolly hair, and grey eyes; but with lips, nose, and shape, entirely African. The white colour of the skin of people of this sort, is not like the skin of European white people; but much whiter, and without that redness distinguishable in the skin of Europeans. They are generally nyctalopian, and short-lived.

Another caprice of nature sometimes produces piebald children from negro women.

The Reverend Mr. *Penlington*, in Jamaica, during my residence there, had a black woman who brought forth a party-coloured black and white child.

Pliny's story of the *Proconnesian* slave, who having had carnal knowledge of her master, and his steward, on the same day, and became pregnant by both of them, and brought forth two children resembling their respective fathers; nor the story of the adulteress, mentioned by Aristotle,

TOTLE, are either of them so curious, or so decisive an instance of Επικυησις, or superfœtation, as one that happened in my time, at *Shortwood* estate, in Linguanea in Jamaica.

A negro woman brought forth two children at a birth, both of equal size; one of which was a negro, and the other a mulatto. On being interrogated upon the occasion of their dissimilitude, she said, she perfectly well knew the cause of it; which was, that a white man, belonging to the estate, came into her hut one morning before she was up, and she suffered his embraces almost instantly after her black husband had quitted her.

In the anatomical theatre at Leyden, when I was first at that university, there were two skeletons preserved, said to be the bones of twins differing remarkably in colour; which a burgomaster's wife brought into the world, in the time of ALBINUS. What cause produced their dissimilitude was not known:—at least, to the husband.

The colour of the skin of negro children, at the moment of their birth, is not easily distinguished from that of white children. It has, to a correct observer, a greater degree of redness.

This changes the next day, to a reddish brown; and in a few days more, the sooty hue commences.

In the produce of a black and a white, the discrimination is less apparent.

In this sort of mixed progeny, many days after a child has been born, have often paſsed in joy and festivity, before the fatal mistake has been discovered. But a cunning midwife, is not to be deceived;—and victims have been made to prevent disgrace.

Some parts of the body of newly-born infants of either sex, in the African race, or any near mixture, particularly between a black and a white, are darker than the rest*:—and such is the case, even before they come into the world. I know this fact from examining subjects of miscarriage, in advanced stages of pregnancy.

This discolouration continues diminishing, in further removes from the original stock.

There is another proof of African taint, by which any mixture of negro blood may be detected; which is from the *lunula*, or light coloured crescent, at the roots of the nails. This is obliterated; or is darker, than that in the unmixed European race; and the nails sometimes continue, with these deviations, after the generation has become white.

---

* Labia pudenda, & scrotum.

European animals in general degenerate in the West-Indies; and, as they descend in a few generations, retain but little resemblance of their original stock. How far this extends to the human race, as relative to natural endowments, is a subject of nice enquiry, and foreign to my present pursuit. However, if any inferiority be found at all, it does not appear in the first generation; or in those born immediately of European parents. But on the contrary, if my observation be just, in people of this description, there is equal capacity and stability of mind, with more acumen than in those born in Europe. Whether this diminishes or not, in further removes, without European mixture, abstracted from the influence of habit and education, may admit of speculation. But let the change be how, or what it may, I have never observed any declension in the qualities of the heart; nor in the tendency of the mind, that philosophy could fairly attribute to nature. The women are generous, affectionate, industrious, and virtuous. The men are brave, polite, and ingenious; and have a peculiar turn for the acquirement of belles lettres, and the elements of arts that are not laborious.

Powerful as the dominion of passion and impatience is, indolence must prevail, where perpetual sameness of the seasons blunts the edge of energy; and where climate relaxes the muscular fibres, and debilitates the nerves.

European dogs lose their scent, horses their speed, and human beings, of delicate structure and fine feelings, sink into a wearisome existence, deprived of power and inclination to move. But there are different casts of human beings, as well as of other animals.

Men generated from the coarser materials of northern melancholic matter, who on their native soil were intended to vegetate, labour, and die, often acquire an expansion of soul, removed to warmer climes. They ripen in the sun.—They get ideas in spite of nature. It is not uncommon between the tropics, to see contention for precedency, duel from punctilio, and the laws of honour obstinately insisted on, by men, who, but a few years before, were imported from Europe to fulfil some servile office; in which they acted with ignorance and integrity, until the sun had sublimed their stupidity, and dissolved their principles.

The reverse of what is supposed to happen to the European, translated to the West-Indies, attends the African race. Every generation here, is an improvement on the former. That wild chaos of instinctive notions, which negroes bring from Africa, seldom can be modulated, unless they come from it very young, to bear any durable, rational impression. When this happens, they look back with horror on their savage state; and do not easily forgive, unless some compliment be added on their improvements, the reproach of having been born in Africa; and of ever having lived in a state, that nature intended for them.

The objects which natives of the sable world embrace are few,—but strong: and flourish on the brain undistracted by contending mental emanations.

A negro,—*Parthis mendacior*,—deliberates; and never makes a spontaneous reply. When a question is asked, he generally desires to have it repeated, pretending not to understand it, that he may have time to prepare an answer. A lie once determined on, no pain nor punishment can shake him.

Detected in committing a theft, he is not disconcerted; and, when any thing which he has stolen is found on him, he denies all knowledge of the fact, and insists, that it was the devil that did it; who, to do him an evil turn, had put the article so stolen into his mouth, or hand, or pocket, or wherever it is found.

Their cunning is often accompanied with great presence of mind. A runaway has been pursued, and, not able to escape in open day, has jumped into a river, where he sat up to his neck in water, with his head covered with the boughs of a tree which he gathered for that purpose; and thus evaded his pursuers, who passed close by him, without discovering him.

Louis the XIVth and his court were put into a ridiculous predicament, by a trick that was practised on them, by a negro who had been kidnapped on the coast of Africa, and carried to the West-Indies. The man pretended he was the son and heir-apparent of the king of *Asinee* in Africa. He was sent to France from the West-Indies, and presented to the court, where he kept up the artifice with unsuspected ingenuity.

The court was highly flattered with the opportunity of converting a pagan prince to christianity; or, as it was said, with the hopes of getting a footing, and establishing a factory, in his country. He was a long time instructed in the christian principles, and baptized by the bishop of *Meaux*, the king himself being his godfather; and he received the sacrament of the Lord's Supper from the cardinal *de Noailles*, and offered at the same time a picture to the blessed virgin, to whose protection he submitted his territories; having made a vow, at his return thither, to use his utmost endeavours towards the conversion of his subjects. The impostor departed, and was conveyed home by three men of war, under the command of the chevalier *Damon*. When this hopeful prince arrived in Africa, he threw off, with his disguise, his fine French clothes, confessed that he was a slave, stripped himself naked, laughed at the French and christianity, and returned to his black master and paganism *.

The same court also, in the year 1698, experienced a great mortification from another royal youth, the king of *Juda's* son, prince *Aniaba*, whom the African company had brought from Africa, and presented to the court. The king had him entered in the college at the academy, and educated with vast expence and magnificence. After some years, when it was thought he had sufficiently acquired the principles of religion and civilization, the king made him a captain of cavalry, permitted him to serve in his army, and honoured him in the most singular manner; and being desirous, before he returned to his own country, that he should signalize the piety in which he had been instructed for so many years, the order of the star was instituted on this occasion, in honour of the virgin; and a large picture representing the event was placed in Nôtre Dame at Paris, as a monument of his faith and devotion. After this ceremony, he was sent back to Africa in the greatest pomp. On his arrival all his decorum vanished at the sight of the congenial barbarism of his country; he immediately stripped off his clothes, abandoned himself to the most savage practices, and immerged into every species of impiety and profligacy: and, in return for the kindness he had received in France, he endeavoured to excite an insurrection, and extirpate his benefactors *.

---

* European Mercury for the Year 1701.

---

* Pere Labat, Vol. II. p. 43.

The French missionaries in the West-Indies formerly found it impossible to impress any African negro with the least notion of christianity, who exceeded the age of ten or twelve years; and they desisted after innumerable fruitless attempts, to baptize any who were brought from Africa above that age. The old negroes would be baptized, over and over again, concealing that they had ever been baptized before, to get the presents, which those pious fathers bestowed on them, at the time of this introduction to religion. No interpretation could enable them to comprehend the ceremony. All explanation confounded. Making a sacred compact was above the capacity of their minds, fettered with the superstitious chains of spells, sorcery, and incantations. Excepting their own dealers in poisons and witchcraft, they knew but of two agents that could possibly have any concern in their affairs:—one sent them a good, the other a bad crop of corn.

Though religion has not been able to make any impression on aged Africans, the young have frequently embraced it with sincerity. The Portugueze, from their first settling on the coast of Africa, have persevered in the attempt, and by great labour and zeal have established some vestiges of christianity on the borders of *Congo*, and *Angola*.

Mahometism has been spread by the Moors over considerable districts among the negroes, in the northern parts of Guinea. I have seen many negroes in the colonies, that were observant musselmen. One of whom, a native of *Mundingo*, I knew to be a pious man, well acquainted with every article in the koran, and the Arabic language.

Negroes born in the West-Indies, particularly those who are brought up about the habitations of white people, are capable of religious instruction, I am convinced, if they were carefully trained in it from their infancy; whatever might be the success of any attempt among those great masses, who live in mountains and on plantations, and have little or no intercourse with white people. It is well known that baptism always removes the greatest dread negroes have;—which is, the dread of one another. The colonies of catholic states have availed themselves of this; and their creole slaves, therefore, are superior in character, and more orderly, and tractable, than those living under protestant governments: where, excepting some laudable, but feeble efforts made on the plantations of *Moravians,* there is no religion at all.

It is unnecessary to descant elaborately on propagating religion as a duty, or on the political advantages that would result from it, respecting colonial reformation.—It is the basis of civilization, and antecedent to morality. Society must begin with it; and instruction follow. And though usurpation over ignorance be disgraceful to an enlightened world,—yet barbarous and uncultured nature can no more enjoy, than defend the rights of man.—Were the mighty plains of Africa the residence of philosophy, her children would not wear the chains of European slavery.

Without bloodshed, persecution, or oppression, what blessings have been produced by instruction, founded on religion, in *Paraguay!*

A few Jesuits there, through the medium of religion, converted many nations of wild, lazy, and ferocious Indians, to an orderly, industrious, and peaceful life. They took these creatures, depraved and savage, as nature turned them out on the earth, raised their condition, and gave them the enjoyment of humanity.

These fathers, unlike those fathers who for their intemperate zeal have been punished with martyrdom, began properly; not by disturbing what was not, but by improving what was, capable of amendment; not by scattering about the flames of novelty, and practising on the passions, but by wisely applying the rationality inherent in man to its proper end: making virtue beneficial, and vice detrimental to his happiness. Having no means to enforce obedience, they gave the Indians ideas before they gave them doctrines; and united, with their religious, civil laws, that produced perceptible advantages, before the laws themselves were comprehended. The effect was an atchievement, which the annals of mankind cannot parallel. In policy, it sinks the fame of SOLON and LYCURGUS: and if Spain, thinking it dangerous to her interest, to have the Indians enlightened and happy, had not interfered, these Jesuits would have carried the utility of christianity to an height, transcending all example in the records of religion.

In tropical countries, people are seldom afflicted with dangerous *pulmonic* diseases; *Idiotism* and *Mania* are very uncommon: and though the moon has unquestionably great influence on crises, and relapses, in continued and intermittent fevers, yet *Lunacy* is almost unknown.

known*. *Scurvy*, and *Gravel*, are diseases seldom to be met with; and the *Stone* scarcely ever.

I have known many Europeans, subject to the gravel at home, who had no symptoms of it during their residence in the West-Indies.

An amiable and worthy officer, of the 79th regiment, had been so afflicted by a stone in his bladder for many years, that he was at length obliged to remain in England, with the intention of having it extracted. Mr. POTT determined his disease to be the stone, on examination; the sound of the instrument was heard by several people, who were present. His regiment being at Jamaica during the war, ill as he was, he spiritedly resolved to join it, as great mortality had happened among the officers. Soon after his arrival at Jamaica, which was in 1780, all the symptoms of his former painful disease abated. He remained in Jamaica three years, and had no violent return of them: but, on the contrary, they gradually diminished, until it became doubtful whether there were a stone in the bladder or not. He has since been in *Canada* for two years, and had none of his complaint there; he is now, 1787, in England, and is entirely free from it.

---

* In the spring of the year 1777, I remarked that most of the patients whom I attended, in fevers, were much affected in the head at every new and full moon. I have observed the same thing often, but never so uniformly as in that year.

When all precaution to guard against sickness has failed, and prudence proved abortive to new-comers, they will have this comfort at least, for their pains, that their disorders will seldom be severe, or expensive, and will generally have a speedy termination; and that their *Seasoning*, as it is emphatically called, will be removed by bleeding, a dose of salts, rest, and a cooling regimen.

Where this mild composition for future health has not been merited, and no terms have been made with the climate, violent diseases may be expected; among which, the DYSENTERY, particularly with soldiers and sailors, or an INFLAMMATORY FEVER, perhaps to that degree which has the appellation of the YELLOW FEVER, may be looked for.

These diseases, if we except the TETANUS, are the most formidable, and have been treated with the least success, of any in the torrid zone. Their rapidity demands the most decisive

sive promptitude — The shortness of their duration affords no time for experiment. — An error once committed can never be remedied *.

The unequivocal symptoms of the dysentery, demonstrate that disease to every capacity; but it frequently happens among transient medical visitors, that the cholera, the bilious remittent, and the bilious putrid fever, are mistaken for the yellow fever. It as frequently happens also, that the bilious colic, and the colic and constipation of the bowels, brought on by the injudicious and excessive use of bark, are mistaken for the *Belly-Ache.*

Nor can such fatal errors be considered as extraordinary, when the only knowledge Europeans can have of these diseases, must be from books; and there are no accounts that have been given of them but what are imperfect, and contradictory. Some, by those who never were in the West-Indies; and others, by people whose residence and practice there, were too limited to afford sufficient experience, by which they might learn to know the genuine pathognomonic symptoms, which distinguish one disease from another, where diseases have any similitude.

---

* It is pertinently said, in the West-Indies, among the French, " un homme n'est pas plutôt tombé malade, qu'il " voit à ses côtés *le médecin, le notaire, & le confesseur;* tous " trois presque au même instant."

Worthy of imitation as the laudable efforts of TOWNE, and respectable as HILLARY's * accuracy in describing what he had actually seen, were, much improvement in the treatment of diseases has since their time taken place in that part of the world; therefore, and considering the state in which they found physic in the West-Indies, we must look back with candour on their practice where we find it defective: for they have done a great deal, deserved well in their profeſſion, and great praises are certainly due to them. For among the adventurers in physic, in the West-Indies, since their first settlement, the principal object seems to have been the acquirement of wealth; and TOWNE and HILLARY, almost alone, have left behind legacies, collected with great labour and patience, which consummate the character of friends to their country.

Non nobis, sed reipublicæ nati sumus.

---

* TOWNE practised physic in *Barbadoes* seven years; and published his treatise on the diseases of that island in 1726. HILLARY practised in the same island, many years longer, after him, and published his observations in 1759.

Perhaps this consideration has prevented many from venturing, where TOWNE and HILLARY have gone before, and must appear in evidence against them. But this is a timid error; for practice every day improves our art. There is no more reason why all progress should stop with TOWNE and HILLARY, than that it should have ceased with HIPPOCRATES.

However, this consideration ought to have deterred some persons, who, with no other pretension than the modest plea of confining themselves to things only that fell under their own observations, to justify their presumption; and others, who from barely looking at the islands during the war, or from only a year or two's obscure residence in confined local practice, on a few soldiers, or sailors, could not have learned to take care of themselves, from giving their opinions to the public on diseases that existed only in their own imagination, and on others that they could scarcely have seen: or at least, by wanting opportunities of comparing a variety of cases, and the occurrences of many years, could not have attained a certain knowledge of the causes of diseases, nor a competent method of treating them.

It requires a very fertile invention to make a few months voyage to the West-Indies, or to sit down there for a year or two (necessarily without practice, because the inhabitants know too well the consequence of employing newly-arrived doctors), and bring home materials for a book; or a method of treating diseases, which will not have a pernicious tendency, if followed; or that can contain any thing useful, that is not pirated from others. This can only be done by long residence, great practice, and observation.

But the English are not the only people who write on diseases they know nothing of, from experience: and direct physic and regimen by latitudes. There are other medical magicians, who can sit at home, tell the transactions of every clime, and traverse the Hygieian Zodiack with omnipotent skill.—Our brethren on the continent are not behind-hand in this practice.

LIND, justly enough, remarks, that POISSONIERE and CHEVALIER, who both practised physic for two or three years in *Hispaniola*, and have written on some of the diseases of that island, "had not proper opportunities of observing the worst symptoms, which attend

" the distempers, so peculiarly fatal to Eu-" ropeans, on their arrival in the West-Indies." But I can by no means agree with him, that ROUPPE, a Dutch physician, whose opportunities were still less, and drawn from a single ship of war, in an harbour, in the island of *Coraçoa*, where he was only two months, " has " furnished us with the best description of those " diseases;" nor that his account of them, " is full, clear and masterly; with the most " proper epithets for them, viz. *colliquative*, " *putrid*, and *spotted fevers*, &c. *"

It is not on account of these misapplied epithets alone, that I dissent; but because there is in reality nothing original in ROUPPE's account of those diseases, excepting his errors. A ship's crew, whose habits had been broken down with the scurvy, lying in an harbour surrounded with marshes and stagnant waters, must have had diseases peculiar to such an origin; but to the diseases of landsmen, and climate at large, they could have no more analogy than the agues of the hundreds of Essex have to the epidemics of London. — ROUPPE, I think, asserts, that " the disease of the

---

* Page 134.

"*Guinea worm* is contagious [*];" and LIND, I think, appears to believe him [†]. — With as much truth he might have said, a thorn in the foot is contagious. — When he speaks of the care of sailors, and of diseases peculiar to seamen, he speaks like a man of sense and observation.

The mischief of publishing medicinal books, written on the authority of others, without the power of detecting their errors, is infinite; for certainly publications of this sort, compiled from speculation, hearsay reports, and extracts of letters from correspondents, from being the worst guides, are productive of the worst consequences [‡].

DAZILLE properly remarks on this subject, in his advertisement, that able physicians can collect together "*Observations on Europeans in* "*the Colonies, and on Seamen,*" made by others who were on the spot; but that it is indispensably necessary to have practised a long time in the colonies, and on-board of vessels, and there to have been much employed, and to know from repeated success, and from what they have seen, themselves, before they can judge of the utility, or the fidelity of the materials, of which their collections are composed *.

---

[*] P. 284.

[†] P. 58.

[‡] Dr. BARKER, in his *Agreement between Ancient and Modern Physicians*, to strengthen GALEN's caution against bleeding in very *hot weather*, says, page 92, he had "been "informed, by a learned and ingenious gentleman, who "has practised in Jamaica, it is found to be much more "dangerous to bleed in that warm climate than in the temperate one of England."

The Doctor's information was bad; and had it been otherwise, it does not apply to GALEN's meaning.

A French

---

* "Si le Docteur LIND, cet homme justement célebre, " et le *traducteur* de son dernier ouvrage, Médicin d'un vrai " mérite avoient été aux Iles de *France* et de *Bourbon*; le " *premier* n'eût point écrit, et *celui-ci* n'eût pas transmis dans " notre langue (page 103, du premier volume), que ces " Colonies sont des lieux *mal-sains*, tandis que de toute la " terre habitable c'est un des pays les *plus salubres*, ou l'on " n' épreuve d'autres maladies, que celles qui y sont apportées du dehors."—Observations Générales sur les Maladies des Climats Chauds. Avertissement, p. 11. Published in 1785, at Paris.

DAZILLE's opinion of the island of *Bourbon* is certainly confirmed by every person who has been there: "L'air y est " si sain, et tout ce qui s'y produit y vient en si grande abondance, et est si bon, q'une personne qui voudroit se séparer " du grand monde pour mener une vie retirée, ne pourroit " choisir un meilleur lieu plus agréable que celui-là." LULLIER, *Voyage*, p. 110.

ORM, in his History of the Military Transactions in Indostan, says, that "several families from France established

themselves

A French author, a Monsieur DE GARDANNE, undertook to publish Observations on the Diseases of Seamen, very principally because he was born in a seaport-town; as he says himself, —but as his countryman DAZILLE says of him, "Monsieur DE GARDANNE n'ayant jamais passé "les Mers *."

Monsieur DE GARDANNE's mode of acquiring his knowledge is curious and interesting. "Né "dans un port de mer, et naturellement initié "à la connoissance de l'art du navigateur, tant "par un long séjour dans les places maritimes, "que par l'habitude de vivre au milieu des per"sonnes qui ont embrassé cet état, je n'ai rien "négligé d'ailleurs pour m'instruire à fond de "ce qui pouvoit avoir rapport à mon sujet, soit "en méditant les auteurs qui m'ont dévancé

"themselves here, in the island of *Bourbon*, soon after the "French took possession of it, and from them are descended "the present inhabitants, who are now multiplied to the "number of 4000, of which 1000 are men capable of bear"ing arms: these have not degenerated from their ancestors, "but on the contrary, are a race so remarkable for stature "and proportion, as well as for health and strength, that "they equal, if not exceed in these qualities, the most "athletic European nations. They are the only colony of "Europeans established within the tropics, which have pre"served these advantages." Page 93. Vol. I.

* Avertissement, p. 12.

" dans la carriere, soit par des conférences assi-
" dues avec des personnes très éclairées sur ce
" sujet *."

Lind has no quarter from this gentleman, for he says, " Lind prétend que le défaut de " végétaux qui en est le principal défenseur, " n'y fait pas grand chose; qu'on peut même " en guérir dans l'air infect de l'entre-pont. " Mais ces idées systématiques ne doivent point " prévaloir sur celles que l'expérience avoit " auparavant accréditées. Le scorbut est causé " par l'air chaud et humide; et tout ce que " Lind avança pour établir une opinion op- " posée, *sera combattu d'une maniere victorieuse,* " dans un Essai sur les Maladies de Gens de " Mer qui suivra de près cet ouvrage †."

This same gentleman undertook also to write on the *Diseases of Creoles in Europe;* and on others more frequently observed in *hot climates;* because he had consulted authors who have written on those subjects; and from the practice he had in *Paris.* " J'avois consulté les

---

* Advertisement, p. 11, to his publication in 1784, intitled, " *Des Maladies des Créoles en Europe*, &c. et Observa- " tions celles des *Gens de Mer*, et sur quelques autres plus " fréquemment observées dans les *Climats Chauds.*"

† Page 47.

" auteurs qui ont écrit sur les maladies des " habitans des deux Indes.—Les Nombreuses " observations que m'a fourni la pratique, " depuis qu' établi dans cette capitale *(Paris)*: " j'ai eu des occasions plus fréquentes de les " connoître, et de les suivre dans leurs diverses " affections *."

There is another evil with which the science of physic is continually invaded; as if a knowledge of diseases could be acquired in travelling post through a country. A transient practitioner, more zealous to distinguish himself, than to benefit mankind, no sooner meets with a disease which he has never seen before, and perhaps does not remain long enough in a situation to see again, than he transmits an account of it to his agent, who transmits it to his literary friend; by whom it is converted into a purpose to support some new hypothesis, or is recommended as a sample of the diseases of a country, and the treatment, as a standard of practice. If this do not happen, when he returns home, and has acquired skill enough to gild the imposition, he sits down and compiles a book, by racking and tormenting the sense of a variety of writers to his purpose; without ever knowing whether the diseases he treats of are endemic, or the produce of accident, or particular constitution.— This is an outrage, founded on a contempt for the serious reflection of mankind, and is a premeditated mischief against the welfare of society.

---

* Avertissement, p. 1.

Here I think it is proper to mention, that the desire of putting a stop to these evils had a considerable influence with me, in undertaking to write on the diseases of hot climates; which diseases, being but little understood in Europe, have been too often themes for impostors, for promoting disingenuous, as well as destructive purposes.

I flatter myself, from the reception which the preceding editions of this work have met with, that my endeavours have been attended with beneficial consequences. Yet, I am sorry to remark, that among mankind I fear some will ever be found, over whom conscience has no control. Such men are not to be checked in their career, whenever the chances of escaping detection are in their favour.

Even since the publication of the former editions of this work, several compilations, on West-Indian diseases, have appeared, in their transit to oblivion *. Had they contained any thing new, it must have been the sublime effect of inspiration; for neither of them had four years incubation, in the Island, of which they were said to be the offspring, — nor scarcely "a local habitation or a name!"

Without the advantages of long residence, great practice, and various oppportunities for observation, a man of morality and reflection would abstain from promulgating opinions, where fatal consequences must attend adopting them. — These advantages no person hitherto, TOWNE and HILLARY excepted, ever had; — and all the infallible precepts I have seen, that have been published on West-Indian fevers, by English writers, since their time, are fortunately for mankind considered, by colonial practitioners, as cold northern productions, which cannot stand the climate of the torrid zone.

It is also proper to rescue the profession in the West-Indies, from the imputation, which these medical *Buccaneers* have brought on it, in Europe; for, wherever practitioners can be supposed to stand in need of such instructors, the state of physic must be considered as deplorable indeed.

---

* See Gentleman's Magazine for November 1791.

The resident practitioners in the West-Indies at present, are people of more science, and of better education, than the practitioners in that part of the world were formerly; and to such of them as were my contemporaries, and have had many years experience, the prejudices I had to encounter when I first published my opinions, are well known: and though I have the satisfaction to learn, that the doctrines I have advanced have made a great change in the treatment of diseases, yet I find there are some erroneous principles still retained, that ought to be eradicated;—and there is still a defect in not extending the antiphlogistic process sufficiently in the beginning of inflammatory diseases.

The notions of asthenia, and putridity, so universally prevailed in Jamaica, at the time of my arriving in the island, that the word *inflammatory*, as connected with fever, was scarcely known; and copious, or repeated bleeding, was in general considered as an agent of death,

There had been violent contentions formerly on these points, particularly as referring to the yellow fever: but no person had ever defined that fever with accuracy; nor, before me, considered it as a genuine inflammatory disease.

The two unfortunate physicians Williams and Bennet, at Kingston, who terminated their disputes on this subject by killing each other in a duel on the 29th of December 1750, both adopted the opinion, that the yellow fever was a *bilious fever*, and gave it that appellation; and though Williams's intentions of cure were rational, yet it did not appear that he was able to distinguish this disease, from others which are really bilious, and peculiar to that part of the world.

This want of discrimination had always existed in the West-Indies; and the consequence was, that cardiacs and refrigerants, evacuants and bark, emetics and bleeding, frequently, and fatally, usurped the place of each other.

Against these errors in particular, it is necessary to warn inexperienced and transient practitioners; and such in the navy and army, whose residence may not be long enough to acquire a thorough and competent knowledge of the endemics of those countries. They must be guided by books; the best of which, those who have been long in the habits of observing diseases, are sensible, fall far short of the design, and serve but as a guide to experience.

Barbadoes has ever borne the palm of West-Indian medical literature; *Jamaica* is greatly in arrears, though it has long been numerously supplied with well-informed, and judicious practitioners: among whom, Doctor DWARRIS held a very distinguished place.

That disciple of BOERHAAVE, through long and extensive experience, removed many errors which had been established there before his time, by the ignorant and illiterate, who had lawlessly assumed the profession.

He also successfully opposed many inapplicable doctrines, which, imbibed in European schools, are often brought improperly into use in hot climates. This was of great advantage to those who practised with him; as well as to the patients,—who frequently escaped the ill consequences of young doctors putting theory into practice.

But while I lament that posterity can derive no benefit from knowledge that is not preserved by written tradition, I am sensible of the reluctance and discouragement, which attend laborious literary pursuits in those sultry regions, *sub curru nimiùm propinqui solis.* The mind, enervated with the body, is roused to short-lived actions, by efforts that cannot last; and sinks again under the oppression of climate, to which all things in nature yield.

Hence arise great impediments to the advancement of medical art; and that knowledge which has been gathered through a long series of experience in those countries, generally dies with its possessor.

This must ever be a subject of regret; for it is there that nature puts on all her variety of modes, and discloses many appearances, which are concealed in temperate climates. An observer there, will often find in her rapid changes, many fallacious systems overthrown, that have been begotten in closets, by speculation, in other parts of the globe.

Concerning what I have written, however it may be received as a contribution to the useful stock of medicinal knowledge, I shall at least be free from the charge of writing on diseases which I had not ample opportunities of knowing, during twelve years residence in the West-Indies; and of recommending a practice compiled from the authority of others, that I have never experienced myself.—So far I can determine; but how I have written must be determined by others. It may be urged, perhaps, among many things, that I have treated with little complaisance the false lights of bad authorities. I wish it were in my power to extinguish them. They are injurious to mankind; and if it shall be found that I have increased the number, by adding to negligence and misconception in the midst of opportunity, the unprofitable toil of making my idleness and errors known to the world, time, I hope, will soon treat me in the same manner. — For I disclaim all credit that may be acquired by adding to the miseries of sickness, the insolence of conjecture, and the treachery of hypothesis.

I cannot dismiss the present subject, in which my views have been principally directed to the avoidable, and to the remediable derangements of the body, without one solitary glance at those derangements of the mind, which no regimen can prevent, nor medicine cure.

Hot climates administer certain death to a "mind diseased;" and where there is in the "memory a rooted sorrow," or "written "troubles of the brain." The want of sleep in the slightest indisposition is always alarming; and in the graver diseases, of people who have naturally much irritability of habit, or some grief, or anxiety in the mind, it is the cause of so great a determination of blood to the head, with excessive action of the arteries of the brain, and so much perturbation of the animal spirits, that often admit of no relief or composure, but what the unhappy sufferer, after violent convulsive struggles, phrenzy, and inflammation of the brain, finds in death.

Sometimes indeed he escapes this fate, to experience the miserable alternative, of a long imbecillity of the faculties of the mind.

Therefore, let not the discontented in mind, nor the broken-hearted, hope to evade his cares and troubles, by changing to these climes; nor think that any passion which has stormed the breast, will abate its force by distance. — *Nostalgia*, — that longing after home, exerts its painful influence in the remotest regions, and magnifies to danger, the most trivial indisposition of either body or mind, when both are already half subdued by the heat and dread of climate. Those whose happy days have not yet been clouded with misfortunes, let them be careful here, to preserve tranquillity of mind, and watch with caution over their passions. — The young and inexperienced, who have embarked with the false notion, that fortune has heaped up treasure for them, to be delivered out gratis, let them also prepare for disappointment; and let them avoid, at first arriving in these countries, entering into any serious engagement, or intricate concern, until they have made themselves acquainted with the genius of the people, and their local laws: for fear any glittering allurement should lead them into an inextricable labyrinth of difficulty and vexation, and consign them to that country, " from whose bourne no " traveller returns."

ON

MILITARY OPERATIONS

IN THE

WEST-INDIES.

SECT. I.

THE early part of the West-Indian history, is filled with melancholy relations of military disasters; arising from ignorance of the periodical changes, which the seasons undergo in tropical countries. Yet it is strange that these woful events, numerous as they have been, have served for very little more, than as a theme for public commentary, and private lamentation.

Important as the proper seasoning of troops for service is, in these inhospitable climes *, little will that consideration avail to enterprise, where no attention is paid to the peculiar elements

---

* See pages 63, 64, 65, 66.

ments which in these regions, supporting but a feeble foe, will defeat the strongest power, and render the utmost human force opposing, Titanic welfare.

Currents in various parts of the ocean, have been anxiously explored by navigators; but the effects of the various seasons in different latitudes, characteristic of each climate, and their difference from local circumstances in similar latitudes, have never been attended to by philosophers, nor regarded in practice, but by those who have suffered from their influence.

In commercial voyages, necessity must be submitted to; but in military expeditions, where the choice of time and season is within the will of the directors of the enterprise, it is wonderful that they should ever be so chosen, as to defeat the very intentions of the undertaking.

The ruin of the forces with VERNON, and, with them, the expedition, from the rainy season in 1741 at *Carthagena;* and the unhappy HOSIER's unparalleled story in 1726, before the *Bastimentos* at *Porto-Bello,* with several less momentous disasters of the same nature, have not operated like misfortunes, to deter by their example. The former national concern, in which twenty thousand lives were lost, is more remembered from the flagitious enmity and jealousy between the commanders (circumstances notoriously disgraceful to this country in every war), and the latter, from the political treachery which exposed that miserable fleet to destruction, than from the natural cause, which in both instances made the crimes of individuals so expensive to the nation, and so calamitous to private families, by the loss of many of their dearest friends and relations.

In the beginning of the year 1780, an expedition was begun from Jamaica, against the Spanish territories in America.

This expedition was directed by GENERAL DALLING, at that time Governor of Jamaica. The plan, wherever it originated, was judiciously designed, and highly approved by Lord George Germain, then Secretary of State for the American department.

The intent was to cut off the communication of the Spaniards, between their Northern and Southern American dominions, by *El Rio San*

Juan, or, *the River Saint John,* as it is called by us, and the lake *Nicaragua*; from the interior boundary of which to the South Sea, is only four or five leagues, through a level country. Thus a connexion from the Northern, to the Southern Sea, was to have been kept up by us, a chain of posts established, and a communication opened, and protected, with an extensive coast, and all the richest provinces of South America.

Every person acquainted with the geography of the Spanish territories, of the defenceless state of this approach to them, and of the insurrections that then had actually taken place in *Santa Fé*, *Popayan*, and many parts of *Peru*, formed the most sanguine expectations. Happy was every man who had hopes of bearing any part in the enterprise. Enthusiasm never was carried to greater height, than by those who had promised to themselves the glory of shaking Spain to her foundation. The colours of England were, in their imagination, already even on the walls of *Lima*.

And so indeed they might have been, had GENERAL DALLING met with no obstacles in arranging the business in Jamaica; and had there been no delay in sending out the force from England, which did not arrive until August, when it ought to have been on the Spanish Main in January.

The obstacles experienced by GENERAL DALLING in equipping the expedition, were many, and from various causes.

A long continued Martial Law, and military preparations, against a threatened invasion by the French, had almost exhausted the Island of military stores and provisions. There was but little of either, excepting in the King's Ordnance, and Victualling Magazines. Over these, the Admiral claimed an exclusive command, and control; and exercised his authority.

This embarrassment, not to be viewed without regret, was however in a great measure surmounted, by the powerful resources and spirited exertions of a worthy and disinterested individual, a merchant of Kingston; who enabled the General to carry his government's orders into Execution *.

Misunderstandings, oppositions, and delays, the ruin of many military operations, were the

---

* *Hercules Ross*, Esq.

origin of the failure of this; but even these perplexities, and disappointments, great as they were, would not have defeated the expedition; or at least the Spaniards might have been saddled with the expence of it, if we could only have made a lodgment on the *Lake*, to have kept open the river: which might have been done, had the first detachment that GENERAL DALLING sent, taken *San Juan* Castle in two hours, instead of setting down formally before it for eleven days.

The first detachment, consisting of about two hundred men, from the 60th and 79th regiments, one hundred of the Loyal Irish Corps, and two hundred Jamaican Volunteers, left Jamaica under the convoy of the Hinchinbrooke, a sloop of war, on the 3d of February, 1780, and directed their course to the Musquito shore, to take with them some of the Musquito Indians*, who were waiting for their arrival.

---

* "The *Musquito Indians*, properly so called, and who have been so remarkable for their fixed hereditary hatred of the Spaniards, and attachment to us, were formerly very numerous; but they were much reduced some years ago by the small-pox. Their present number is from seven to ten thousand fighting men; formed into different tribes, both by nature and policy. By nature, from the general distinction, *pure Indians*, and *Samboes*; by policy, as living and

On the 14th of February they arrived at *Cape Gratias à Dios*; disembarked, and encamped

and acting under several chieftains, called King, Governor, General, and Admiral; each of whom has a different territory, and nearly independent jurisdiction; though the King has an imperfectly defined supremacy both in power and dominion.

" The General's people are Samboes, and inhabit from *Black River* to near *Cape Gratias à Dios.* The King's chief residence is about twelve leagues South of the Cape; his people are all Samboes, and his immediate precinct reaches to the Cape, and runs far up the country. The Governor's precinct joins to the King's, and extends between twenty and thirty leagues to the Southward, till it meets the Admiral's. The people under these two last chieftains are pure Indians.

" The *Samboes* are supposed to derive their origin from a Guinea ship, in which were several hundreds of Negroes, being wrecked on the coast above a century ago. Certain it is, that their hair, complexion, features, and make, clearly prove an African ancestry; from which they have also inherited some of the worst characteristics of the worst African mind: for they are generally false, designing, treacherous, impudent, and revengeful.

" The *pure Indians* are the Aborigines, but so called because they are free from any mixture of Negro blood; and their general conduct gives a very favourable idea of Indian nature. They are seldom guilty of any positive evil, and often rise to positive good, when positive good does not require much exertion of the mind. Their modesty, docility, good faith, disposition to friendship, and gratitude, ought to engage the regard and protection of all mankind; for the same virtues that render them amiable, will be likely hereafter to bring on their destruction." *Bryan Edwards.*

about a mile from the sea, on *Wank's Savanna*; an unhealthful situation.—Here they were joined by a party of men from the 79th regiment, from *Black River*. On the 10th of March the troops re-embarked, and took their departure from *Cape Gratias à Dios*, and anchored at several places on the Musquito shore, to take up our allies, the Indians; who were to furnish proper boats for the service of the river, and to proceed with them on the expedition: and on the 24th of March they arrived at the river *San Juan.*

San Juan river, is the Northern branch, or mouth of *Lake Nicaragua*, and is situated in North latitude 12°, 0′, West longitude 83°, 45′.

The heat of the climate must necessarily be excessive; and this is augmented, in the course of the river, by high woods without sufficient intervals, in many places, to admit of being refreshed by the winds.

The river has in its course many noisome marshes on its sides; and the trees are so thick as to intercept the rays of the sun: consequently, the earth beneath their branches is covered with rotten leaves and putrid vegetables. Hence arise copious collections of foul vapours, which clog the atmosphere. These unite with large clouds, and pricipitate in rains: the rains are no sooner over than the sun breaks forth, and shines with scorching heat. The surface of the ground, in places not covered with trees, is scarcely dry, before the atmosphere is again loaded by another collection of clouds and exhalations, and the sun is again concealed.

In the rainy seasons of the year, months successively pass away in this sort of vicissitude, without the least diminution of heat, excepting at nights, when the air is poisoned by noxious, chilling dews. But sometimes, during the *Periodical Rains*[*], which begin about the middle of April, and with uncertain intervals of dry weather, end late in November, the torrents of water that fall, for weeks together, are prodigious, which give the river a tremendous aspect; and from their suddenness and impetuosity, cannot be imagined by an European to portend any thing but a deluge. This bursting of the waters above, and the raging of the river below, with the blackness of the nights, accompanied with horrible tempests of lightning and thunder, constitute a magnificent scene of terror, unknown but in the tropic world.

---

[*] See page 10.

These circumstances are not peculiar to this district, but are common to all the interior parts about *Carthagena*, *Porto Bello*, *Chagre*, the *Spanish Main*, and the *Muſquito shore*.

The amazing quantity of water that falls on the North and East sides of the *Cordelleras* and *Andes*, is evident from the immense rivers that empty themselves into the Northern ocean, from the river *Amazon* to the river *Missisippi*: and the great dryness of the countries on the opposite side of those mountains is also evident, from the smallness of the rivers that empty themselves into the Southern ocean.

In the country of Peru, on the South of the Equator, though there are great fogs and thick mists, or *garuas*, as they are called, during their winter, which is from the end of June until the beginning of December, it never rains along the coast, within fifteen or twenty leagues of the sea.

Of the little army destined for the *San Juan* expedition, after some delay at the mouth of the river, two hundred regulars, with ammunition and stores, proceeded up the river, with the Indians, in their several crafts. It being now near the end of the dry season, the river contained very little water, and the shoals and sandy beaches rendered the passage difficult. The men were frequently obliged to quit their boats, and unite their strength in the water, to get them through some shallow channels. This labour continued for several days after they left the mouth of the river, until they arrived in deeper water:—then they made a quicker progress. However, they met with many obstacles by currents, and occasional rapids, or falls, which would have been insurmountable but for the skill of the Indians, in managing the boats on those occasions.

On the 9th of April this advanced party arrived at a little island up the river, called *Saint Bartholomew*, which they took, after receiving a few shot from the enemy, by which two men were wounded. This island is situated about sixteen miles below *San Juan* castle; and was occupied by the Spaniards as a look-out, and defended by sixteen or eighteen men, in a small semi-circular battery, of nine or ten swivels. It was necessary for our purposes; as it commands the navigation of the river, in a rapid and difficult part of it.

On the 11th of April the troops arived before the castle of *San Juan*, and on the 13th the siege commenced. The ammunition and stores were landed two or three miles below the castle, and transported through the back woods to the place where the attack began.

San Juan castle is situated sixty-nine miles up the river, from the mouth, and thirty-two from the lake of *Nicaragua*; and is a navigation of nine days: but for loaded boats much longer, from the harbour up to it. The return from it, down by the current, is made in a day and half.

On the 24th of April the castle surrendered. During the siege two or three men were killed, and nine or ten wounded.

But here the tragedy begins; and the best concerted and most important enterprise that had been conceived during the war, was totally defeated, and a considerable national expence and mortality incurred, only to increase the jealousy of the Spaniards, and their insolence and cruelty to our countrymen, which has ever been without example among civilized nations.

An event only in the year preceding our expedition, justifies this charge; and exhibits a dreadful specimen of the Spanish colonial government.

On the 15th of September, 1779, the English settlers at the Bay of *Honduras* were surprized by the Spaniards; the principal part of them were seized, and carried away into the most ignominious captivity.

They were ignorant that Spain had commenced hostilities against England; and at daylight, the unwary inhabitants of Saint George's Key, the residence of the English, found themselves surrounded by a considerable armed force, under *Don Joseph Rosado* governor of *Baccalar*.

In this sudden, and unlooked-for capture, many women were carried off, leaving their husbands, and children, behind; many husbands, and parents, were, in the same manner, torn from their wives, and families; and many children from their parents.

They were fettered like criminals; and all, without distinction, confined in the holds of vessels, until they arrived at the look-out of *Saint Antonio*, in the *Rio Honda*. Here they were plundered of the little baggage they had hastily scraped together; and then coerced, in the same shocking manner, to *Baccalar:* from whence they were marched, in thirty days, to *Merida*, in the province of *Yutican*.

Merida is about an hundred English miles from *Baccalar*; one hundred and forty from the look-out of Saint Antonio, and two hundred and ten from Saint George's Key. They arrived at *Merida*, on the 26th of October; and were imprisoned there in the College of Saint Peter.

In the journey from *Baccalar*, several women and children were nearly killed, by frequent falls from the mules; from the almost impassable state of the roads. Some women, had the aggravated misfortune to be incumbered with infants; and being destitute of every necessary for their situation, and having only a scanty allowance of bread, expired on the way; and left their helpless offspring to the care of Him,——

"——that doth the ravens feed."——

Several of the men, through the inclemency of the weather, want of clothing, and the hardships they underwent, from courage beyond their strength, survived this march but a few days; and most of those that did, were afflicted with severe diseases.

The number of these unfortunate people, was originally an hundred; of which fourteen were women; some of whom were of respectable birth, and education; and in possession of great wealth, and every comfort in life. There were also, twenty-five young people of both sexes, and children. Among the men, there were several magistrates, and other gentlemen of character, and fortune.

During the whole of their oblivious residence at *Merida*, they were allowed but one *ryal* a day, (five pence English money) for each person; and were all kept in close confinement, in the same place, without any regard to delicacy, sex, circumstances, rank, or condition.

The men, women, young people, and children, almost naked, were all shut up indiscriminately together in the College-gaol, with common seamen, and other prisoners.

After these worthy and neglected captives had been two years dead to the world, Mr. *Patrick Ogilvy* and Mr. *Thomas Potts,* English magistrates and gentlemen of the first consideration, in behalf of themselves and fellow-captives, contrived to convey a memorial of their sufferings, dated the 20th of October, 1781, to *Don Diego Joseph Navarro,* then governor of the *Havanna.* This had no effect; and they were left another painful year, in their deplorable abode; when the survivors received a sudden order to depart to *Campechy,* ninety miles from *Merida ;* from which port they were sent to the *Havanna ;* and from the *Havanna* to Kingston in Jamaica; where they arrived in the month of November, 1782.

But to return to our expedition.

From the unfortunate delay before the castle, which surrendered when it was summoned, the season for the Spring periodical rains, with their concomitant diseases, was now advanced; and the little army had lost the opportunity of pushing rapidly on, out of those horrid woods *, by which

---

* In these woods there are a multitude of antelopes, monkeys, parrots, tigers, and deadly venomous serpents. See page 32.

In the march to the castle, as an advanced party under the command of *Captain Bulkeley,* an officer of distinguished merit which they were environed, to the dry, pleasant, and healthful plains and agreeable towns of *Grenada* and *Leon*, near the lake, in the province of Nicaragua; which, from its salubrity and situation, is justly termed by the Spaniards, *Mahomet's Paradise*; and where they might have maintained themselves, with the reinforcement which followed them from Jamaica on the 10th of April, until a road for carriages might have been made from Blue-fields' harbour to the lake, and the seasons would have permitted farther reinforcement, for the completion of a glorious

---

merit, of the 79th regiment (to whom I am indebted for this, and many particulars of the expedition), one evening were making fires, and preparing to refresh and rest themselves, a soldier having retired a little way from the rest, a tiger came behind him, and struck him on the back with his paw, and jumped on him. The man instantly started up, disentangled himself, and ran to his companions, terrified almost to death, with the tiger after him. The man fell down, and the tiger plunged headlong among the men, missed the one he was pursuing, and caught another by the neck, tore his clothes, and hurt his face; but without doing any farther mischief; and from the noise and confusion of the whole party, he fled away. From these he ran to a party of Indians who were accompanying them, and were now resting at some little distance; but the Indians seeing him approach, made a great howling, which is always their custom, and frightened the tiger away. He must have been much pressed with hunger, not being first attacked, to pursue a man where there were fires, and a multitude of people.

enterprise;—as the natives of the country were ready to revolt, and only waited but for a prospect of success. But here they were shut up in the castle, as soon as they were in possession of it. The troops and Indians were attacked with fluxes and intermittents, and in want of almost every necessary; for the river was become so swoln and rapid by the rains, that the navigation from the harbour, where the provisions and stores were, was tedious and almost impracticable. Here the troops, deserted by those Indians who had not already perished, languished in extreme misery, and gradually mouldered away, until there was not sufficient strength alive to attend the sick, nor to bury the dead.

Thus reduced, in the month of September they were obliged to abandon their flattering conquest, and return to the harbour; leaving a few men behind who were the most likely to live, to keep possession of the castle, if possible, until farther orders should be received from Jamaica.

The Spaniards retook the castle as soon as the season permitted, and, with it, those who had not strength enough to make their escape.

The crews of the vessels and transports that convoyed and carried the troops, suffered considerably by diseases which the season produced, while lying on the coast: and a thousand seamen lost their lives.

Of about 1800 people who were sent to different posts, at different embarkations, to connect and form the various dependencies of this expedition, few of the Europeans retained their health above sixteen days, and not more than 380 ever returned; and those, chiefly, in a miserable condition. It was otherwise with the negroes who were employed on this occasion. Few of them were ill; and the remainder returned to Jamaica in as good health as they went from it*. Of the officers who died, the following is nearly an accurate account.

---

* It was the same at the taking of *Fort Omoa* from the Spaniards. On that expedition, half of the Europeans who landed, died in six weeks. But very few negroes; and not one, of 200, that were *African* born. The *Creole* negroes did not bear hardships so well.

60th Regiment.	
Lieutenants	3
Ensigns	3
79th Regiment.	
Major	1
Captain	1
Lieutenants	5
Ensigns	3
Royal Irish Corps.	
Captains	2
Jamaican Volunteers.	
Captains	4
Lieutenants	4
Ensign	1
Quarter Master	1
Legion Corps.	
Captain	1
Lieutenants	5
Batteaux Corps.	
Lieut. Colonel	1
Captains	3
Lieutenants	5
Ensign	1
Black Reg. Volunteers.	
Captain	1
Lieutenants	3
Armed Vessels.	
Captains	2
Artillery.	
Lieutenant	1
Commissary	1
Navy.	
Captain	1
Lieutenant	1
Masters	2
Marines.	
Lieutenants	2
Surgeons	4
Surgeons Mates	7
Total	69

The survivors of the party, after they left *San Juan* castle, embarked for *Blue-Fields*, an English settlement about sixty miles to the North of *San Juan* river, where most of them died.

The climate of *San Juan* was not more destructive to the human frame, than the harbour was to the ships: and for the benefit of future naval operations I think it is important to mention here, that there is an absolute necessity for having every vessel copper-bottomed, employed on that coast; especially when there is a probability of detention.—For, in our expedition, the bottoms of the ships, not being coppered, which went with the first equipment from Jamaica, were in a short time so entirely eaten by the worms, as to become useless; and had not fresh ships been dispatched from Jamaica, the remains of the troops must have perished there, for want of transports to bring them away.

Lord NELSON Duke of BRONTE, then Captain NELSON, was the person who commanded the Hinchinbrooke man of war, the convoy to the expedition. On his authority I state, that the fever which destroyed the crews of the different vessels, invariably attacked them, from about twenty to thirty days, after their arrival in the harbour; that in his own ship, of two hundred men, eighty-seven were seized, and confined to their beds, in one night; that one hundred and forty-five were buried there; and that not more than ten survived the expedition.

In mentioning this illustrious character, to whose skill and valour the British empire is so much indebted, I cannot conceal that I have great pleasure in recording, that it was on our *San Juan* expedition he commenced his career of glory.

His capacious mind, gave on this dangerous, and dreadful service, an early specimen of those splendid elements, which have since decorated, with never-fading laurels, the English naval military fame; — with deeds unparalleled in history; with atchievements beyond the hope of envy.

When the unfortunate contentions alluded to had diffused their pernicious effects, slackened the ardour for the public service, and destroyed the success of the expedition by anticipation, he did not suffer any narrow party spirit to influence his conduct. He was as zealous as intrepid.

His country's honour was his party. —A brilliant example to all military men. He did more than what he might, if he chose, have considered as his duty. Where any thing was to be done, he saw no difficulties.

Not contented with having carried the armament safe to the harbour of *San Juan*, he accompanied, and assisted the troops in all their difficulties; and remained with them until the castle surrendered.

He was the first on shore at the attack of *Saint Bartholomew*, followed by a few brave seamen and soldiers; in the face of a severe fire. The undauntedness of the act, frightened the Spaniards; who from the nature of the ground might have put him and his party to death; but they ran away, and abandoned the battery.

By his example and perseverance, the Indians and seamen were encouraged through their toil, in forcing the boats, against the current, up the river; — otherwise not a man would have seen *San Juan* castle. When they arrived at the castle, — as prompt in thought as bold in action, he advised the carrying it, instantly, by assault *. He knew the seasons were at hand, and that there was no time to be lost. — That his advice was not followed, this recital is a lamentable testimony.

---

* See Page 150.

SECT. II.

I HAVE related more of the *San Juan* expedition, and its consequences, than I should have done, had it not formed part of the business of a campaign in which I was employed; besides constituting the most striking example to be found in history, of the ill effects of exposing men to the rigour of the wet seasons in hot climates.

I have suppressed much more of this expedition, as irrelative to medicinal history; not for want of authentic materials, nor for want of disapprobation of many circumstances with which it was connected. But as the failure of that undertaking has been buried, with many of its kindred, in the silent tomb of government, I hope I have not disturbed its repose, but for the benefit of mankind; in which I have omitted all relations concerning individuals, and elucidation which might gratify that power, at whose debasement the blow was wisely meditated, and ought to have been effectually applied.

If Spain could so easily reconcile to herself breaking the peace with England, without provocation in the American war, and to assist in establishing an example, and power, for her own destruction, however defective she might have been in political sagacity, she has but done that moral justice to herself, that the world in general has long thought to be her due. For surely if the vengeance of offended morality should ever be awakened to punish empires, Spain will be torn from her foundation, to expiate the horrid sacrilege she has committed, in dishonouring the name of God, and making Religion wade through torrents of innocent blood, and with mockery, sanctify the murder of twenty millions of Indians.

From the revolutions which have already happened, and the natural and political causes which still must operate, it requires no great divination to foretel, that this expedition will not be the last; and that they may be attended with success, I have established a beacon, to shew where the dangers lie, to which those must expose themselves, who undertake enterprises against countries at seasons of the year, when the elements fight for them, and render them impregnable.

Spain, in her American dominions, has long exulted in their security, which the distance from European powers has given them; and in the secrecy with which she has kept the knowledge of those dominions, by fallacious histories; and suffering none to enter their ports, nor to have communication with her subjects. But inducement will ever remain, to encourage an invasion of many of the Northern parts of those countries; for, the same cause which makes an enterprise perilous to the assailants, will ever operate to expose those places to insults from their enemies.

The depopulation of many of the Northern and Eastern frontier garrisons, from the destructiveness of the climate, frequently leaves them without a sufficient number of people in health to attend the sick, before they are relieved. The complement of troops allotted for the defence of each place, is generally cut off by death every three years; and the interior countries are constantly drained to supply this amazing waste of human beings. The governors accept their appointments with assurance, if they survive, of promotion in healthful provinces.

When it will be the fate of those countries to raise up a friend, and experience a reverse of fortune, by revolution;—or how long they will remain objects of plunder and slavery, time must discover.

Should other nations * turn from this vulnerable part of the Spanish monarchy, I think the North Americans will not. That nation, spirited and enterprising, without mines, without money, and without external commerce, will not long remain a race of farmers; and be satisfied with virtuous poverty, when the means of

---

* The English territories, from their contiguity, and supported by Jamaica, had every advantage for attacking the Spanish dominions. These territories commenced at *Cape Catouche*, N. Lat. 21°, 30′, W. Long. 88°, and ended at *San Juan* River, N. Lat. 12°, 0′, W. Long. 83° 45′ including the two districts of the Bay of Honduras, and the Musquito Shore. The *Bay of Honduras* commences at *Cape Catouche*, and ends at *Cape Honduras*. The *Musquito Shore* commences at *Cape Honduras*, and ends at *San Juan* River. The internal boundary and extent of the Musquito shore is difficult to ascertain; as we derived our right from the cessions of the Indians, our limits were as indefinite as theirs. And if the distant mountains which bound the Spanish territories behind, be considered as the inland line, we possessed a country there, more than half as large as Portugal. The three principal settlements are at *Black River*, *Cape Gratias a Dios*, and *Blue-fields*.

enriching and aggrandising themselves, and their country, are within their reach. It is not in nature to stifle those struggles of temptation, in which national policy and individual interest, are so strongly united.

Besides, extinguishing European tyranny in the Western hemisphere, is a debt which North America owes to the world. It is an undertaking worthy the spirit of that republic.

All commercial nations would derive advantage from this event; and it is the only source North America can ever have, when population has increased, beyond cultivation, to arts and manufactures, for the influx of gold and silver into her country.

Whenever America embarks in this business, the power of Spain cannot prevent her final dissolution in the Western world. The *Floridas*, which the Spaniards secured after the American war, through jealousy and fear, will be no barrier against the North-Americans. They will not make a circuitous attack through those countries on *Mexico*; nor march through deserts and wildernesses to lay down their arms to the first opposers.

Every man in North-America is by nature a General, for such an enterprise as this; where rapidity and surprise insure success, and regular encampment, approach and fight, defeat: and where *Homerian* wiles and stratagems are more requisite, than the ceremonious courage, and expensive formalities, of European warfare. — It was thus that CORTEZ* and PIZARRO enslaved those countries: and it was thus that the renowned buccaneer, HENRY MORGAN, performed his various exploits there, against the Spaniards.

When one surveys the terraqueous globe, and reflects on its unjust participation; when one sees what a small number of inhabitants, with industry and good laws, make of rocks, swamps, and deserts, and that sloth and tyranny turn to no account millions of human beings, and millions of acres, in the finest and most fertile regions of the earth; — when one reads the history of the Spaniards, there is an holy zeal that inflames the heart with the spirit of retribution, for the immense depredations which they have committed on the works of nature, to obtain their Mexican and Peruvian dominions; and for the uses they have since made of those ill-gotten, but inestimable possessions.

---

* CORTEZ left the *Havannah* for the conquest of *Mexico*, on the 10th of February, 1519; murdered all the Indians before him, excepting one tribe or two of parricides which assisted him; entered *Mexico* on the 8th of November, and soon after had *Montezuma* in fetters in his own palace. This was indeed expedition.

Wafer, an English surgeon, says, he and some others landed at *Vermejo*, in Peru, in 1687, and marched about four miles up a sandy bay: "all which," he says, "we found covered with "the bodies of men, women, and children, "which lay so thick, that a man might, if he "would, have walked half a mile, and never "trod a step off a dead human body. These "bodies, to appearance, seemed as if they had "not been above a week dead; but if you "handled them, they proved as dry and light "as a sponge, or piece of cork. After we had "been some time ashore, we espied a smoke, "and making up to it, found an old man, a "Spanish Indian, who was ranging along the "sea-side, to find some dried sea-weeds, to dress "some fish, which his company had caught; "for he belonged to a fishing-boat hard-by. We "asked him many questions, in Spanish, about "the place, and how those dead bodies came "there? To which he returned for answer, "that in his father's time the soil there, which "now yielded nothing, was green, well cul-

" tivated, and fruitful; that the city of *Wormia* " had been well inhabited by Indians; and that " they were so numerous, that they could have " handed a fish, from hand to hand, twenty " leagues from the sea, until it had come to the " Inca's hands: and that the reason of those " dead bodies was, that when the Spaniards " came and blocked up, and laid siege to the " city, the Indians, rather than lie at the Spaniard's mercy, dug holes in the sand, and " buried themselves alive. The men, as they " now lie, have with them their broken bows, " and the women their spinning wheels and distaffs, with cotton yarn upon them *."

FREZIER, a French voyager, who was also in Peru, in 1712, confirms the same account: He says, " The vale of *Hilo,* in which there are " not, at present, above three or four farms, " formerly maintained an Indian town, the remains of which are still to be seen, two leagues " from the sea; a dismal effect of the ravages " the Spaniards have made among the Indians.

" There are still more moving marks of the " misfortunes of that poor nation, near *Arica,*

---

* Voyage and Description of the Isthmus of America, page 166.

"above the church of *Hilo*, and all along the "shore as far as the point of *Coles*, being an "infinite number of tombs, that when they dig "at this very time, they find bodies almost in-"tire, with their clothes, and very often gold "and silver vessels. Those I have seen are dug "in the sand the depth of a man, and inclosed "with a wall of dry stone; they are covered "with wattles and canes, on which there is a "bed or layer of earth, and sand laid over, that "the place where they were might not be ob-"served. They were so terrified that they "thought they must all die, when they were "informed, that the Spaniards had not spared "even their beloved ATABALIPA, who among "them was looked upon as the offspring of the "sun, which they worshipped. Therefore, to "escape out of their hands, they fled as far as "they could Westward, to implore the mercy "of the sun; but being stopped by the sea, "they buried themselves alive on the edge of "it*."

But even Spanish inquisitorial policy itself, which has so often found annihilation a shorter road than conversion, cannot extinguish the eternal flame of local patriotism.—This, the only guardian of the household gods, in every country, is as dear to mankind as their sacred altars, and is venerated in every clime.

---

* Relation du Voyage de la Mer du Sud, p. 160.

The descendants of Europeans, natives of Spanish America, feel that attachment to their soil, which nature has planted in every being; and do not submit to accumulated imposts, and groan beneath the insolence of office, and see the mortifying distinctions, which neither place of trust, nor honour, is reposed in any hands but European Spaniards, without the most pungent indignation, that shakes even the prejudices of religion.

As to the Indians, cultivation and industry are carried no further by them, than is necessary for their existence. The governors are not the only people that take upon them to pillage the Indians; the merchants, and other Spaniards who travel, take boldly from them whatever they want; and if the owners dare to speak a word they are paid with blows: so that in many places those people, being worn out with such vexations, keep nothing in their houses, not even to eat. They sow no more *Maiz*, or Indian corn, than is requisite for the family, and hide in some caves the quantity they know, by experience, they shall have occasion for

through

through the year. They divide it into fifty-two parts, one for every week in the year; and the father and the mother, who alone know the secret, go every week to bring out a week's allowance.

These people being driven to despair, by the hardness of Spanish usage, there is no doubt, as FREZIER says, but they only wish for an opportunity to shake it off. But even in this wretched condition the Spaniards have never been able to stifle their idolatry, for the memory of their beloved *Incas*.

All the circumstances of the death of *Atabalipa*, the last of the *Incas*, whom *Francis Pizarro* caused to be murdered, are well known.

The love they bore their native chiefs, whom they considered as tender parents, in their golden days of liberty, makes them still sigh for a return of those times, of which traditions have been handed down to them by their ancestors. In most of the great towns of *Peru*, up the country, they revive the memory of the death of *Atabalipa*, by a sort of tragedy they act in the streets, on a certain day once a year. Endeavours are constantly used by the Spaniards to suppress this ceremony, and they have of late years debarred them the use of stages, on which they represented the death of that *Inca*.

In a country thus prepared, though plunder and rapine might meet with opposition, should a well-concerted plan, by any foreign power, ever be adopted to give it assistance, there will be no difficulty in liberating the inhabitants; and establishing some equitable government, under which the natives, and other inhabitants, may live in happiness, and have a free and commercial intercourse with other parts of the world; and enjoy the fruits of their industry, and those blessings, which nature has there abundantly distributed, and which ought to be converted to the benefit of mankind.

The *Mexicans* will not be behind-hand: their injuries are deeply engraved. The Indians there also, have faithfully recorded a comprehensive description of the vast slaughter of their countrymen, in the subversion of their freedom; and of the impious murder of *Montezuma*, by the treacherous *Cortez*, in his own hospitable mansion.

SECT. III.

THE force that had been long expected, and that was to have given effect to the *San Juan* expedition, arrived in Jamaica on the first of August, 1780; and after having been embarked many months too late for the campaign for which it was destined, it was afterwards delayed by a six months passage from England, by contrary winds *.

The 85th, 92d, 93d, and 94th regiments, under the command of general GARTH, an approved good officer, constituted this force. The 93d and 94th, on their arrival, were in a miserable condition: the former brought the gaol-distemper, from England, and on the voyage most of those who did not perish, were so reduced, as to be unable to stand the climate, or to bear the inconveniences to which they were exposed, and almost all of them died in Jamaica.

The first battalion of the 60th, and the 79th and 88th regiments, were already in the island.

---

* See pages 148, 149.

The above force, with the Loyal Irish, and several irregular corps, with armed boats for the service of the Lake *Nicaragua*, were thought fully adequate to the undertaking; had all been assembled in time to have embarked from Jamaica at a proper season of the year, to have pushed their conquest until they had secured a permanent lodgement in the heart of the Spanish dominions.

But if those people who remained in possession of *San Juan* castle, had been able to keep it until the season for sending reinforcement arrived, the enterprise had now new difficulties to encounter; for the Spaniards had employed all their strength to fortify the entrance of the lake above the castle, which at first was in a manner defenceless. But after the account arrived, of the fate of those who began the business, and that the castle was again in the hands of the Spaniards, all farther idea of expedition was abandoned.

On the disembarkation of these troops in Jamaica, the flank companies of each regiment encamped at *Castile Fort*; and afterwards at *Up Park*, where they were joined by the flank companies of the 60th, 79th, and 88th regiments.

The encampment continued during the months of August, September, October, and November; in which months it rained at different times, considerably, on twenty-eight days.

Encamping at this season of the year, in that island, the most unhealthful, it is not to be supposed was a matter of design. There were no barracks to receive the troops, and it was a matter of necessity. Two temporary barracks were caused to be erected, through the good sense and vigilance of general GARTH, at *Up Park*, as soon as possible after their arrival; in which as many men as they could contain were placed. But more of the men might have been better accommodated, if some difficulties had been removed, that the judicious proposal made by major Richard CREWE, who commanded the light companies, might have been adopted; which was to occupy, as barracks, the empty houses in the town of Kingston. That excellent officer wisely considered, health in hot climates, was not easily to be recruited; and that keeping the men together was of little utility, where rigid discipline was impracticable.

I was then Surgeon-General of the island. The care of the camp-hospitals devolved on me. In an encampment, circumstanced as this was, when the days were suffocatingly hot, from the irregularity and deficiency of the sea-breeze, at this season of the year, — when the nights were cold, on account of the land-wind, — exposed to the autumnal rains; the men lying on the ground; their tents not sufficient to defend them, either from the intense heat of the sun, or from the coldness of the night, or from the rain; health was not to be expected: it was impossible to be, there.

It may be easily imagined that our camp-hospitals were soon crowded. Raw European troops exposed in such a climate, to all its inconveniences, must suffer in the most severe manner; and of this small body of men of the flank companies, by the 12th of September, we had in *Castile Hospital* 109, in *Rock-Fort Hospital* 88, and in *Up Park Hospital* 70, in all 267, chiefly of fluxes, bilious, and remittent fevers.

Our hospitals at *Castle Fort* and *Up Park* were small boarded buildings; and consequently extremely hot, crowded, and unclean. *Rock-Fort* barrack was chiefly used as a convalescent hospital; which, notwithstanding its unhealthful situation, we were obliged to occupy, for want of a more proper place. Here the men, instead of recovering, suffered relapses, and were harrassed with intermittent fevers, and chronical diarrhoeas; after the removal of their primary diseases, in the other hospitals.

As the restoring soldiers speedily to health is of the first consequence, in climates where a short illness renders them useless — where their places cannot be supplied, and where diseases are inevitable, — convenient and proper hospitals are of the utmost importance: and in all cases where a great number of sick are collected together, the situation, as well as the construction of an hospital, requires consideration.

This was sufficiently experienced by our troops in the West-Indies during the last war; and the mortality may be easily conceived, when in the little army of the Leeward Islands, under general ABERCROMBIE, between the 1st of January 1796, and the 1st of November, that of 216 officers who perished, 18 only fell by the enemy.

An hospital should be, not only situated on an healthful spot, but in the vicinity of a market; where good water, wood, and every necessary can be supplied without fatigue, delay, or trouble. The evils arising from the reverse of this, require no animadversion. Let us consider the evils attending the improper construction of hospitals in hot climates.

Instead of their being lofty and spacious, and built in the manner I have described in the preceding dissertation *, we find a contrary mode adopted in all the military hospitals in the West-Indies; and it is generally thought sufficient to have a multitude of doors and windows, in all places appropriated for the sick: these doors and windows are kept constantly open, to make the hospital what is called *airy.*

Hospitals and sick rooms ought to be well ventilated, no doubt; but as the sick should not be stifled with heat, so they should not have currents of wind directed on their bodies: in this case, no disease can possibly be thrown off, or complete a crisis by the emunctories of the skin. How then can men recover from fevers, chiefly from obstructed perspiration, exposed to a still increasing cause? To this source we may principally attribute the multitude of what are generally called convalescents; which, in truth, for the most part, are people labouring under chronical complaints, from the imperfect solution of acute diseases.

---

* Pages 58, 59, 60.

Sick bodies, in hot climates, should be kept cool, by being placed in rooms sufficiently spacious, to afford an uniform temperature of air: —it is death to cool them by evaporation.

It cannot have escaped the notice of any person who has resided long in the West-Indies, that sitting in the confined direction of a breeze, brings on a feverish, disagreeable sensation; sometimes pains in the face, neck, and joints, and a great degree of fever.—How then must it be with a patient, who in a little hut of an hospital, is placed at a door-way, or in a current of wind, or raised on a platform to the level of an open window, to prevent suffocation from heat, if a critical sweat should break out? The sweat is suddenly stopped; and if death do not ensue, the disease (which under the kind operation of nature would end in a day or two) is lengthened out into months.

The cost of a good hospital is nothing in the scale of expence. It is a solecism in œconomy to have a bad one. A bad hospital may deprive the state, in a few months, of as many men, whose value would amount, in political calculation, to a sum sufficient to build a good one. This fact, the army dreadfully demonstrated in Jamaica, during the American war. I lost more value in men at *Castile Fort*, and at *Up Park*, in three months, from the miseries of the hospitals alone, than would have been adequate to the expence of erecting a proper one, for all the troops in the island.

The ingeniously-contrived moveable hospitals, lately constructed at Somerset-house, for the service of the army in the West-Indies, I am sorry to say, will not correspond in utility with the merit of their inventors; who seem principally to have had in view, only one of the requisites for an hospital, — that of ventilation.

Buildings like these, made of boards, with nearly flat roofs, and without height or space, can make no resistance against the scorching vertical sun of tropical countries; nor against the chilling damp of night.

The temperature of the air within must be nearly the same as it is without, in the open atmosphere (which I found to be the case, on examining one of them by a thermometer, on an hot day in July): and unless they be placed in the shade of trees or buildings, I do not conceive it possible for sick people to exist in them, during the heat of the day, in close sultry

try weather, in the West-Indies.—However, they are preferable to tents; and when any service of short duration is to be carried on in war, where buildings are not likely to be found, and encampment necessary, they will be useful.

Great as our inconveniences were who remained in Jamaica, they who encountered the *San Juan* expedition suffered much more; and it was long doubtful whether such of them as experienced every hardship in life, and were thrown into the river, or lay unburied on its banks, a prey to wild beasts, in sight of their helpless companions, were not in a more enviable state than the survivors.

Those who returned to Jamaica, were harrassed with obstinate intermittents, or diarrhœal, or dysenterical complaints: or with painful enlargements of the liver, or spleen. Their complexions were yellow, and their bodies emaciated. Some whom I attended, after their return, that had been long ill on the Spanish Main, had their intellects impaired, and their senses at times disordered; during their weak and convalescent state.

The late doctor Charles IRVING *, who was on the Spanish Main, to command a corps of Indians, which he was raising for that service, was a skilful physician. — He informed me, that in the intermittents, the *delirium*, which commonly came on in the paroxysm of the fever, after a few returns of it, sometimes remained during the intermissions, which soon became irregular, from reduplications of the accessions; and that several men wandered about in a phrenzy, and died raving mad.

Imbecillity of mind, as well as of body, is a common consequence of long and obstinate disorders in hot climates; and I have frequently observed that the mind has been greatly impaired after irregular and harrassing intermittents; and sometimes a temporary insanity has ensued. This must have been also observed by others; but as far as I know, no person, except SYDENHAM, who was the first that noticed it, has mentioned it as occurring in practice. He says, he has often found, when the patients had been extremely debilitated by long continuance of the disease, the doubling of the fits, and repeated evacuatious, that they have been seized with a madness, when they began to recover, which went off proportionably as they gathered strength *; but that sometimes, from injudicious evacuations only, it has degenerated into a miserable kind of folly for life †.

---

* This gentleman invented an improved method of obtaining fresh water from sea water, by distillation; for which he obtained a reward of 5000l. from parliament.

But there is another cause of these disorders of the brain in the West-Indies, which neither injudicious evacuations, nor climate, nor the nature of the disease, are in the least accessary in producing; though generally attributed to them. This cause is the *Peruvian bark*.

In a letter I received from doctor IRVING, dated the 19th of April 1780, while he was at *Blue-fields*, he says, "From ignorance or neg-" lect of your perspiratory practice, or from " being destitute of proper necessaries, I am

---

* Plus semel tamen adverti, ægros a morbi diuturnitate, et paroxysmorum ingeminatione, accedentibus ad malorum cumulum evacuationibus repetitis, ad summam debilitatem redactos, ubi primum cœperint convalescere, in *maniam* incidisse, quæ pari cum illo passu recessit, quo eorumdem vires de novo redintegrabantur.——P. 84.

† Post evacuationes fortiores adhibitas, in miseram quandam *stultitiam* degenerans, non nisi cum ipsa ægrorum vita terminatur.——P. 102.

" convinced many have been lost on this ex-
" pedition. Nature wanting vigour to dis-
" charge the incipient fevers by the pores,
" which should have been supported by warm
" clothing and sudorific practice, &c. But by
" trusting wholly to bark, an early coma came
" on, and a paralysis of the limbs, and soon
" after death. I have seen a multitude die at
" *San Juan* without a point of variety from
" this stated."

He found that the stomach required the utmost attention: for the energy of that organ giving way, was seldom restored. That nothing was so grateful as *London bottled porter.* Wine was neither so much desired by the sick, nor so serviceable in corroborating, and keeping up the powers of the stomach; which, like the rest of the body, from the slightest indisposition, was soon reduced to an uncommon state of debility. With London bottled porter, and strong infusions of snake root, or cinnamon, and a discreet use of diaphoretics, and a cautious use of bark, he conquered many of those intermittents, which, from incautious evacuations, and emetic tartar, would have degenerated into fluxes, and remittents; and from an excessive and untimely use of bark, into other diseases, which art could not have remedied.

Bark, in unskilful hands, is a precarious remedy even in intermittents in the West-Indies, and should never be long persisted in, without evidently good effects: and then not without the frequent intervention of calomel.

If the fever be a recent one, and has a tendency to a remittent, the premature use of bark impedes the secretions, causes strictures in the capillary vessels, and fixes immoveable obstructions in the brain; whence follow the train of evils enumerated.

This I have so often seen, that I can but wonder at writers not observing more caution, in advising bark early in the remission of fevers: — nay, even in their exacerbations, and where the fever is continual *. But such practice is repugnant to reason; and I know from experience, that fatal effects in other respects also, have been occasioned by it. Indeed, bark cannot be given to advantage, while the viscera are loaded with sharp, pituitous, and glutinous matter; and the sanguiferous and lymphatic vessels stuffed and clogged, with heated and sizy blood, and lymph — impediments that must remain while the fever does, and cannot be removed when there is a remis-

---

* Lind, p. 120.

sion only. Where there is any tendency to inflammation in the habit, bark increases the impetus of the blood; and by constricting the vessels, and lessening the diameters of the secretory and the excretory ducts, it operates as a direct poison.

In intermittents also which succeed acute diseases, bark, without great care, does more harm than good. It augments those obstructions in the abdominal viscera, which almost always follow severe disorders in hot climates; and which bark often converts into incurable *scirrhi*, or dropsies.

At the setting in of autumnal diseases, intermittents are always attended with a greater secretion of bile, than they are afterwards, when the season has farther advanced. And the earlier the autumnal sickly season commences, the more the liver is effected, and the greater is the quantity of bile attending them. For which reason, bark at that time is improper, when given without perfect intermissions.

A patient can take much more bark, without injury, in a December intermittent, than he can in an August one. Yellowness in the eyes, tension of the abdomen, and a cough, are generally produced by a few doses of bark, in the beginning of autumn; and this is an infallible sign, that the body is not properly prepared for it. But when the autumnal intermittents do not set in until November, bark, in general, may be taken with safety, without much previous preparation; because they are seldom attended with those excessive bilious secretions; and that febrile disposition, which accompany them in earlier months.

Spring diseases, in hot climates, though not always strongly marked, have in general an inflammatory tendency; which tendency gradually declines with the year, and disappears in autumn.

The autumnal diseases, in Jamaica, in the year 1776, set in, in November; the season was cold and rainy. Fevers came on with a shivering; but a good intermiſſion generally succeeded the first paroxysm; in which, if eight or ten drams of bark were given, all went on well: if not, the fever returned the next evening, and the following day only a remission succeeded — bark then would not answer. The third fit universally ended in a low continued fever, which required early blisters, cordials, and stimulants; as the patients all sunk very much, and many died.

The type of diseases is very often dissimilar, in the same season, in a district only of a few miles. In hot, marshy, low situations, autumnal intermittents have generally a putrid tendency; and sometimes after a few paroxysms degenerate into irregular, low, fevers, accompanied with colliquative sweats, and diarrhœas. Here the early use of bark, in every climate, is proper; and the almost indiscriminate administration of it, seldom attended with danger.

This locality of disease ought to be well considered, by those who write for the information of others; and should not be confounded with the endemics of a country, or of a climate at large: for such varieties occur in every part of the world.

On examining the situation of *Modena*, in Italy, I found many local circumstances combined to make it probable that Torti's extensive administration of bark, had better reasons to support it than his theory; or than his adversaries admitted. However, Torti adopted the important distinction, between a *corruptive*, and a *depurative*, intermittent; which is a distinction, I wish to inculcate between the tropics. In the former, which chiefly belongs to the autumnal season, Torti's doctrine may sometimes apply; and "ab ipso exordio per corticem suppremi "poterit*;" but in the latter, if there be not an intermittent disposition in the season, or some local putrid tendency, it will be found that bark is not always necessary in the cure of intermitting fevers; and that frequently, by obstructing some design of nature, does great mischief, and particularly when given too early †.

In cases were the utility of bark was in the least degree equivocal, and where a reasonable quantity had been taken without success, I generally desisted from it, and had recourse to other means.

The method I used in intermittents, under these circumstances, was, to order the patient to bed, and give him a vomit, at first, about two hours before the accession; and after its operation, a warm opiate to promote perspiration, with proper dilution. The next morning I gave a dose of rhubarb and magnesia; and a few grains of calomel every night, for two or three successive nights. If the skin, or eyes, were tinged with bile, or the patient costive, I gave a small dose of rhubarb and magnesia on the following mornings; otherwise not. This process was intended to remove, or prevent, obstructions in the abdominal viscera, and glands, which always render intermittents difficult to cure, and sometimes make them fatal. But the cure turned on a regular course of warm diaphoretics, and the following draught, in conjunction with this process; which always broke the force of the fever, shortened its duration, and gave fair intermissions, without heat and quick pulse, for taking bark with effect. Sometimes the disease was carried entirely off without bark.

---

* Therapeutices Specialis, lib. 1. cap. viii. p. 60. Ed. Venetiis, 1769.

† Curandum est ante omnia, ne præmature nimis hic "cortex ingeratur, ante scilicet quam morbus suo se marte "aliquantisper protriverit, nisi collabescentes, et jam fractæ "aegri vires, eundem temporius sumendum esse dictave- "rint." Sydenham, p. 93.

℞ Aquæ Menthæ simpl. vel. Julep. è Camphor. ℥iss.
Theriac. Androm. ʒj. vel ʒiss.
Spirit. Mindereri ℥ss. M.

This draught was given about an hour before the accession, the patient being first put to bed, and perspiration encouraged with wine whey, and herb teas. This was repeated until the intention was answered, in the same manner, before every return of fever: the patient remaining in bed, until each paroxysm had terminated in a complete solution by sweat.

When this method without bark, when bark was inadmissible, did not stop the progress of the disease, and when united with bark, it was still ineffectual (which was seldom the case, as bark is most powerful in its effects, and least injurious to the habit, if taken while the patient is in bed, or with a course of diaphoretics, or so guarded and managed that the pores of the skin may be kept freely open), I omitted the bark, and in its stead gave two scruples of *calamus aromaticus* root, powdered; increasing or diminishing the quantity as circumstances required. This powder was given in a morning fasting, if possible, and repeated three, four, five, or six times a day, as the intermission and stomach would permit, in a glass of wine, or a strong infusion of snake-root.

Sometimes I pursued SYDENHAM's method*, particularly in tertians, and in quotidians, where the secretion of bile was enormous; which was, to order the patient to bed, and urge a sweat by warm dilution, about two hours before the coming on of the fit: and as soon as the sweat was raised, I gave a warm purgative, combined with an opiate and a diaphoretic. This caused what SYDENHAM calls two contrary motions, sweating and purging; which not only shortened the duration of the fit, but cleared the first passages thoroughly, and made way for giving bark, without injuring the liver or spleen. Some intermittents, where bark had been taken without effect, yielded to gentle purging, with frequent doses of magnesia and lemonade.

---

* P. 92.

After the October rains, intermittents became the prevailing diseases this year *, in the camps in Jamaica. And though they were successfully treated, in the preceding manner, the men, from being exposed, were constantly relapsing, and soon rendered unfit for military duties. Many dysenteries terminated in intermittents; and among the convalescents in both diseases, many changed from one to the other.

The DYSENTERY, as in all military operations, being our most destructive enemy, through the whole of the encampment, it is necessary to give the history of that important disease in a separate treatise; and I shall in this place take

---

* 1780.

notice of another disease only, that appeared, and disappeared very suddenly in the camp, and proved so often fatal, that it disheartened the men who were seized with it, took away all hopes of recovery, and dismayed their companions. I have the strongest inducement for mentioning this malady, as I have the happiness to be able to describe its cure; which besides being useful in practice, the subject may serve as a lesson to shew that there are diseases, which from experience only, and not from their symptoms, the curative indications can be ascertained and answered.

This disease was a *Putrid Bilious Fever*, that invaded the men at *Up-Park* Camp. The inhabitants of Kingston, and the neighbourhood, were greatly alarmed by it; and from the suddenness with which several men died, who were scarcely thought to be ill, and from the extraordinary yellowness of their bodies after death, it was imagined that some pestilence had been brought to the island.

It made its appearance towards the end of October; on the 3d of which month, the west end of the island suffered so much from an hurricane*; and it was every where the wettest and most tempestuous month that had been known for many years: and though it rained but eleven days at camp in this month, five of them in the beginning of it were successive, and continued through the greater part of the nights of those five days. After these rains, and winds, which beat down the tents and one of the temporary barracks, the night land-winds considerably increased, and came down from the mountains unusually cold, continuing during the whole month of November. The days were now as remarkably hot for the season of the year; there being but little sea-breeze, and that only for a few hours, in the middle of the day. November was a dry month; for there had been but three slight showers, in the beginning of it.

---

* See page 14.

This fever came on with sudden loss of strength; nausea; clamminess in the mouth; the eyes were dull, and tinged with bile; they were also sunk in the head; there were besides, in those who died, even from the first attack of the disease, several other marks of Hippocratical face; particularly the sinking in of the temples. The pulse was low and quick; the skin was moist, with heaviness in the head, tension and uneasiness in the abdomen, and great anxiety; the skin soon became of a deep yellow colour, accompanied with coma, cold thin sweats, and deep laborious hiccuping. It ended on the second, third, or fourth day in death.—Some of the gross and plethoric, died soon after being attacked, in convulsions.

The Earl of HARRINGTON, who commanded, resided near the hospital; while this disease spread such terror, that almost every person who could, avoided the camp. His exertions and solicitude for the health of the men, conformable to his generous and noble nature, merited the greatest praise. He did all that could be done, circumstanced as we were. He desired I would inform him whether the disease was infectious, as was generally believed, or not; in order, if it were, that such prudential measures might be taken, as would prevent its spreading, and becoming universal. I informed him it was not contagious.

The coming on of this disease, indicating no considerable degree of fever, neither from the pulse nor the skin; without vomiting or purging; and from the extreme weakness into which every person sunk who was attacked, led to a mode of treatment at first, which did not prove successful.

Those who had taken their curative indications from the treacherous appearance of the disease, began with supporting the powers of life, and pressing for an opportunity of giving bark.

This is an error in all bilious diseases; and is often committed in others, merely because they are called putrid. It could not be productive of good effects, when nature was endeavouring to relieve herself by the means of the liver; and unloading the habit into the intestinal canal.

It was indeed a very uncommon species, or rather degree, of bilious fever; and more rapid in its fatal effects, than any fever I had ever seen. But this does not warrant the giving it a new appellation, for it was truly the *Putrid Bilious Fever* of those countries, in its utmost degree; without hæmorrhage, or any diagnostics of irritation; and in such a state as no person has before described; nor had I seen any thing nearly like to it for many years: though an inferior degree of it, the *Bilious Remittent Fever*,, is a common disease, and with which the *Endemial Inflammatory Fever* (called the *Yellow Fever*) has been so much confounded by writers.

Though I admit, in compliance with custom, that to be a bilious disease, which is accompanied with such an evidently preternatural secretion of bile, as discolours the eyes, or skin, and appears in all the excretions, whether there be fever or not; yet I consider bile here as an effect, and an index of the state of the liver, and not as the cause of the disease: and that the presence, or absence, of irritability in the body, with acrid secretions in the stomach and bowels, perform all those operations which are commonly attributed to bile.

It is curious to reflect on the effect of passions, when the mind has been strongly agitated. In some habits, it appears in a general nervous affection; in others, in violent actions of some particular viscus, as the liver.

Why does sudden grief, or anger, frequently, in an instant, bring on vomiting, or purging of bile?

Can it be supposed that the cause of these operations is bile, and that thought in a moment should actimonize it?—Physiology accounts for the actions of the stomach in the *calculus cysticus*, and *nephritis*.

But bile is always to be carried off by artificial means, when any preternatural quantity is excreted into the bowels. Not that it has any sceptical properties, tending to dissolve the blood in a living subject, as has been suggested from fallacious experiments unconnected with life; but because the liver is in a plethorical state, and undergoing too much action, and acquiring a turgescence and plenitude in the *pori biliarii*, and *ductus hepaticus*, that must stifle its functions, unless this surcharge be removed speedily through the *ductus communis* into the *duodenum*; and obstruction prevented, by stimulating the intestines, and increasing their peristaltic motion.

An omission of this, is another error often committed in West-Indian practice.

It happened to me at the camp, as it does to others who have the superintending any medical department, not always to have seen the patients on their being first attacked: putrefaction had far advanced, and the patients were under the usual course of antiseptics and cordials, frequently, before I saw them.

As these medicines did not produce their natural and proper effects, and as at first every man that was seized, died,—sometimes two, three, four in a day;—I began to consider where the error of treatment lay (for all diseases that soonest destroy the frame, are soonest cured, when we have found out the right method of treating them): and whether it might not originate from the dread of evacuations, on account of so much debility in the beginning of the disease, previous to giving bark.

On surveying the practice with all the reflection of which I was capable, I was convinced this was the case; and immediately advised purging at the first onset of the disease; and directed it to be continued, until contra-indicated by weakness. But so far was the result of that apprehension from being confirmed by the event, that it was found that the men acquired strength, in proportion as they diluted and were purged.

The stools were charged with a deep saffron-coloured offensive bile, and the urine was of a deep yellow; these continued often unchanged after repeated cathartics. It seemed as if the very blood was nothing but bile, and that the body had the power of converting the fluids which the men drank, instantly into bile: for many patients had twenty stools a day, for three days successively, without entirely changing the appearance of them. When the stools altered, the skin altered; and then, and not till then, after this practice was followed, did I give any bark.

The purge we used was *manna* and *cream of tartar*. We made a solution of these ingredients in barley-water, in a large tin kettle in the hospital; with which the men were supplied, to keep them constantly purging, as long as was necessary; diluting plentifully with water-gruel, or barley-water. We did not lose one man after this mode of treatment was adopted.

During the encampment of the flank companies, the 85th regiment, celebrated for the gallant youths who were its officers in Jamaica, was also encamped at *Castile Fort* *, and commanded by Major Henry Phipps.

This

---

* The Camp at *Castile Fort* was on a rising ground, about a quarter of a mile from the sea, which was to the South; and near the foot of the mountains, which were to the north; about five miles to the eastward of Kingston.

The Camp at *Up-Park* was on a flat, open plain, near the Long Mountain behind Kingston, about two miles from the sea, to the south, and about the same distance from the Liguanea mountains, to the north. The situation of both camps

was

This officer, notwithstanding the evils and inconveniences that surrounded us, making the best of his situation, shewed that there are none so bad, in which some resource may not be found, by minds possessing aptitude and energy. From the judicious method in which he arranged the tents, and shaded them with the boughs of trees; from a constant attention not to expose the men to the sun unnecessarily; from selecting proper times of the day for exercise, and military duties; from not only dividing the men in messes, with a non-commissioned officer to each mess, but taking care that *their money was laid out properly*, by which means they always sat down to a good and wholesome dinner; and above all, from obliging them to take off their wet linen after rain, and to put on flannel, and never suffering them to remain wet in body or feet;—he gave a striking instance, by the health and appearance of that regiment, that many difficulties may be surmounted, when professional talents are united with active zeal, and directed by judgement and humanity.

was airy, free from stagnant water, marshes, and unwholesome exhalations; but exposed to the force, and transitions of all the elements. Both camps were ill supplied with water—*Castile Fort* by distant carriage, and *Up-Park* by an inconsiderable well or two.

The clothing that our troops were furnished with in the American war, in the West-Indies, was too heavy for the climate. The French clothing for their troops was more judiciously adapted. But great advantage would accrue to either, if every soldier were supplied with a thin flannel shirt or two; not made so ridiculously short as their linen shirts always are, but long and full, otherwise a flannel shirt will be useless after washing. This should be put on after they have been in the rain, or when any particular night-duty, in bad weather, exposes them on service. This is among the best preservatives of health, when men are obliged to lie in the field, or on the ground in hot climates, where a post is to be maintained, or where a defence, or an attack is to be made, attended with delay.

But delay never should be made in an *attack*, for the reason that makes the great *Fabian* maxim, "cunctando," a certain *defence* in hot climates, when the defenders are under cover, and their enemy exposed to the weather, which they must be to guard against alarms and surprises; and if besiegers can be kept from possessing any town, or extensive buildings, they may be left to climate and the "tented field:" for sickness will prevent European troops succeeding in any attempt, where the service exceeds six weeks.

The principal reason that the Buccaneers retained their health, in their desperate enterprises, in the West-Indies, better than regular troops have ever done was, besides being seasoned to the climate, they seldom remained long in a place. But whenever they departed from this custom, either from necessity in a siege, or from choice after conquest, sickness was the invariable consequence.—The history of every military operation, in this part of the world, shews the necessity of rapidity, and the mischief of delay. The troops under VERNON and WENTWORTH, encamped after the battle of *Saint Lazare* at *Carthagena,* in the month of April 1741, were reduced, in two days, from 6645 men, to 3200.

It is hardly to be credited what men can go through wrapped up, as it were, in flannel. The coldness of the night air then, has a medium to pass to their bodies; which breaks the force of its impression, and prevents the suppression of perspiration. It is warmth without incumbrance:—a great consideration to a soldier. Besides, flannel acts as a friction to the skin, and keeps the pores open: it also creates an uniform atmosphere round the body. Occasional clothing of this sort is absolutely necessary for officers and soldiers on actual service in hot climates; not only as a defence against the inconveniences arising from rains, dews, and night air, but to put on after having been wet, much fatigued, and heated: that perspiration may not be suddenly checked, and that the body may cool gradually. After sickness, a flannel jacket worn next the skin often prevents relapses.

In the lofty mountains, where the cold is almost insupportable, and where the blighting, and deadly winds are so noxious to animal, and vegetable life *, leather worn under flannel, and cloth, is the best preservative.—In Europe, where piercing East, and other chilling winds prevail; in pulmonic, and bowel complaints; in rheumatism;—for tender constitutions, and aged people, the addition of a long leather waistcoat with sleeves, and also of leather drawers, under the usual clothing, is a salutary defence against cold, and its evil consequences.

Doctor **Irving**, with a small party of men, lay in the woods on the Musquito Shore fourteen days and nights, during the rainy season of 1780, without taking off his clothes; while he was exploring a passage to the Spanish settlements up Bluefields River. He escaped without the least injury to his health; having blankets with him, and being clothed in a shirt, short jacket, breeches and stockings, all made of flannel. The others, not using the same clothing, suffered severely, without exposing themselves to the same fatigue or danger.

---

* See Pages 3. 70. 73, 74.

Attention to the health of soldiers, and *quid valeant humeri,* are the first objects for an officer's consideration, particularly in countries and climates where men are not to be recruited; nor sickness soon removed; nor health soon regained. A thousand things may be laid down in European theories, that would be destructive in the woods of America, and under the burning sun between the tropics.

Discipline here, particularly with new troops, should never be of that kind, or degree, to exceed the proportion of exercise which is conducive to health. They should not be harrassed with manœuvring and the manual exercise. A soldier should be nursed. All drudgery and labour should be performed by negroes, and others, inured to the climate; and a soldier should be admitted to no exertion, until some important object is to be carried into execution.

That the greater part of the men in regiments perish abroad, before the remainder learn to take care of themselves, is an old complaint: but if the evils arise from causes which the service can, it ought to remedy them.

The condition of a soldier should place him, in the eyes of his officer, as a child; and, like a child, he is sometimes troublesome and refractory, and must be served against his will. But let it be considered, that prudence and good sense contribute very sparingly to that part of an establishment, where there is so much disproportion, between rewards and punishments. Yet there is a gallantry in a soldier, that is always contented; nay more, it is always enthusiastic, when he sees his officer interested in his welfare, and will not suffer him to be wronged.

These reflections are not the offspring of speculation, but the result of experience; and important as they are, they have never before been the subject of practical discussion. They are now offered to the serious attention of those who are destined for service in tropical countries.

tries. There, it is probable, they will learn from the most painful conviction, that unless sickness be prevented, no regiment can make any figure that will gratify an officer who is fond of his profession; and that it is this alone which can insure success to any military operation: for soldiers who have been once ill, from the tediousness of recovery, and from frequent relapses, are not only rendered totally incapable of service for that campaign, but become an additional incumbrance to the movements of the army; and by the necessary increase of attendance and orderly-men in the hospitals to take care of them, a further diminution is made of the forces, that might be employed on active service in the field.

SECT. IV.

THE same mischiefs which attend delays in offensive war, and the same medical considerations which relate to military operations in hot climates, apply in a considerable degree, to military operations in every climate; and particularly to such as are carried on in Europe, in the autumnal season of the year.

Expedition and health, are the soul of martial enterprise: and next in importance, in an army, to that general who best understands the secret of not exposing his soldiers to diseases, is that physician who best knows how to meet their causes, and remove them the speediest.

Curing diseases in an army, is never well done, unless it be done quickly. There never are conveniences in an army for long sickness. A soldier's bed is often only a blanket, and all his necessaries contained in his knapsack. The attacks of diseases are here always sudden and violent. The cure, if possible, should be *jucundè*—but it must be *citò*, if at all. For the diseases of a few days in an army, have sometimes defeated, and often nearly ruined, many of the greatest designs in the annals of wars.

On the 23d of October, 1415, HENRY the Fifth, with his English archers, would not have

"affrighted the air at Agincourt,"

if impetuosity had suffered the French to remain quiet; and had the battle been delayed another week, his whole army would have been ruined.

He embarked with 50,000 men from *Southampton*, on the 18th and 19th of August 1415, and landed at *Havre de Grace* on the 21st. He marched to *Harfleur*, beſieged, and took it. During the ſiege, which was not six weeks from the time of his leaving England, he lost nearly half of his army by the bloody flux. Two thousands died of it in one day.

RAPIN says, "the flux, which was among "his troops, had made, and still did make, "such ravage, that not above the fourth part of "his army were able to bear arms. This dis- "temper had not seized the common soldiers "only, but even the most considerable persons "were not free from it. The Bishop of Nor-

"wich, and the Earl of Suffolk, were already "dead of it. The Duke of Clarence, the king's "brother, the Earl of Arundel, and several "other officers of distinction, were so danger-"ously ill, that they were obliged to return to "England in hopes of cure."

In 1650, in the month of September, OLIVER CROMWELL's army was so reduced by fluxes, from a few days rain, before *Dunbar*, that he had, probably, never been protector of England, if the Lord had deferred delivering the Scotch army into his hands, a few days longer*.

In 1743, on the 28th of June, the night after the battle of *Dettingen*, a heavy shower of rain fell, preceded by very hot and dry weather, to which the English troops lying all night on the field of battle without tents were exposed, and the night following they encamped on wet ground. In less than eight days, five hundred men were ill with the dysentery, and within six weeks, half that army was afflicted with it.

The combined armies of Austria and Prussia, amounting to nearly 100,000 men, under the command of the King of PRUSSIA, and the Duke of BRUNSWICK, which, in the autumn of 1792, entered France, for the purposes declared in the duke of BRUNSWICK's manifestos of the 25th and 27th of July, at *Coblentz*, being stopped in their career, were in one month rendered, chiefly by the dysentery, incapable of any other operation than retreating.

---

* When CROMWELL saw the Scotch army in motion, he exclaimed, "The Lord is going to deliver them into our "hands."

A great army remaining on the same ground, in autumn, supposing the season not so uncommonly wet as this was, must soon be ruined by disease.

The filth alone of an immense body of men, stationary in the field in autumn, and compressed as this army must necessarily have been, was sufficient to give rise to every species of pestilence; and from the contaminated state of the air which surrounded them, it was impossible that the troops could recover from any disease whatever.

Under such circumstances, when a numerous army can no longer advance, that moment is the signal for retreat. Therefore, these commanders, after the 2d of September, when they possessed themselves of *Verdun*, and found they could proceed but fourteen miles farther, remained in the field only to fill their hospitals. For, from this period their army began to decay rapidly; and by the 12th of October, when they were obliged to surrender *Verdun*, on being summoned, their sick had augmented so much, from various causes, and became so great an embarrassment, that when they were compelled to quit France, they found their whole army in such a miserable condition, that even their retreat was attended with danger, and accomplished with difficulty, in the midst of the havock of death.

I find, and indeed the fact has ever been the same, that the Prussians were very healthy during their marches towards France, from their own country; and also afterwards, while they were moving from place to place, and kept in motion:—but when arrested in their progress, fixed to one spot on the marshy plains of *Champagne*, and exposed to the evils I have mentioned, a more sudden, or extensive scene of military disaster, was never exhibited.

Thus this vast, and wonderfully appointed force, which had taken almost three years, in

"dreadful note of preparation,"

was able to remain only two months in France.

Longwy, the first, and last place they occupied, was given up to them on the 23d of August; and they surrendered it by capitulation, on the 23d of October.

The occurrences and event of this short, but memorable expedition, shew the importance of skilful physicians, in a great army;—which, far from home, is always a great evil,—and has more wants than are generally calculated:—when health is one of them, numbers effect nothing, but in their recoil multiply distress, and increase confusion.

ON THE

DYSENTERY*.

PART THE FIRST.

THE DYSENTERY, or BLOODY FLUX, being a disease so destructive to soldiers in camps and garrisons, and a constant attendant on all military operations, it is a medical inquiry of the utmost importance to investigate the disease, on every occasion, with the greatest attention; in hopes

---

* When this treatise was first published, separately, in England, it was remarked, in a literary journal, that curing the dysentery by sudorific medicines, was not a new doctrine; and since the first edition of this book appeared, the same journal observes, that, "promoting perspiration *after* "the intestines are well emptied, is the usual mode of treat-"ing the disease, and the only effectual way of curing it."—But that "I seem to place too much efficacy in sudorifics †."

Another of these literary journals suggests, that the disease, from yielding easily to my sudorific treatment, was

† Monthly Review for June 1788.

"a pecuhopes of finding some method to put a stop to its devastation. It is a subject in which the welfare of mankind is deeply interested, and often the glory and honour of a nation. If the cause of humanity were not alone a sufficient motive to induce to this research, we need but

---

" a peculiar epidemic;" and " suspects strongly that this " plan would not succeed so well in this climate *."

The authors of these remarks appear candid, but less fortunate than in some others with which they have honoured me. If they had given the subject due consideration, the former would have known, from reading, that no person, before me, antient, or modern, has ever mentioned, as a system, treating the dysentery, after the primæ viæ have been cleansed, with sudorific medicines only; and from inquiry among practitioners in London, or any where else, that it is not " the usual mode of treating the disease." — The latter gentleman, from my words, had no reason to suppose, it was " a peculiar epidemic," to which I was applying the doctrine, but to the various epidemics of a long series of years. And though it is not hitherto " the usual " mode of treating the disease;" yet I foretel that it will be so, whenever any severe epidemic shall make its appearance, and will be " the only effectual way of curing it." I have the satisfaction to assert, from my own experience, that it does succeed well in " this climate," and in every other climate of Europe, where the practice has gained, and is gaining ground faster than could reasonably be expected, considering what piles of venerable absurdity stand in its way, surrounded by an host of idolaters, defending their superstition.

* Critical Review for February 1788.

turn our eyes on the political field; there we may behold the best concerted measures defeated by its influence. The page of military history weeps less for the slain in battle, than for those who have fallen victims to this calamity.

We have greatly to lament, that the labours of medical writers hitherto have met with so little success, and that their best endeavours have only shewn, how little we know, and how much we have to learn, in treating this disease.

Happy shall I be, if the following observations contribute to remove some of the many difficulties which present themselves; and induce a further prosecution of the subject, until the disease is brought under the command of the most improved and certain practice.

The word Dysentery, in Latin *Dysenteria*, and in Greek Δυσεντερια, is derived from δυς, with difficulty, and εντερα, the intestines; importing a difficulty, or a disturbance of the functions of the intestines.

The Dysentery is termed by the Latin writers *Difficultas Intestinorum*; CELSUS calls it *Tormina*; GALEN, Ἑλκωσις εντερων; CÆLIUS AURELIANUS, *Rheu-*

Rheumatismus cum ulcere; and it is thus described by HIPPOCRATES in lib. iii. cap. 5. *de Victus Ratione Sanorum*:—

῾Οκοταν δε θερμαινομενου του σωματος, καθαρσις δριμέια γενηται, το τε εντερον ξυεται, και ἑλκουται, και διαχωρεεται αιματωδεα, τουτο δε δυσεντεριη καλεεται, νουσος χαλεπη τε, και επικινδυνος.

"When the body is heated, and there is an acrimonious purging, with corrosion and ulceration of the intestine, and bloody stools, the disease is called a dysentery, and is a severe and dangerous disorder."

GALEN *de Locis Affectis*, lib. vi. cap. 2. says, Χρη δ᾽ ὑμας εν τῳ παροντι λογῳ, τας κυριως ονομαζομενας δυσεντεριας ακουειν, ως σημαινουσης της προσηγοριας εντερων ἑλκωσιν.

"It is necessary to understand properly the meaning of the word dysentery, as the appellation itself signifies an ulcer of the intestines,"

And that,—

Εν αρχῃ μεν ουν εκκρισις χολης δακνωδοις ἱκανως, επ᾽ αυτου γινεται, μετα δε ταυτην ακολουθει ξυσματα των εντερων· ειτα τοις ξυσμασι συνεκκρινεται τι μικρον αἱματος, ἡνικ᾽ ηδη δυσεντερια το παθος εστι.

"At first there is a discharge of acrid bile, then abrasions of the intestines follow, afterwards blood is excreted with the abrasions; and this constitutes a true dysentery."

He then proceeds,—

"When abrasions of the bowels only are discharged, it is to be observed, whether any fat substance is voided with them; for then the ulcer is in the large intestines. When blood is voided, it is necessary to observe whether it is mixed universally with the excrements, or whether it is only superficially upon some part of them. If it be mixed with them, it shews that the ulcer is in the superior intestines; if it appear on the surface, the ulcer is in the inferior intestines. The same observation applies in regard to the abrasions, in some degree; and they will also shew by their proper substance, which intestine is affected. Dysenteries that arise from the liver, are to be discovered in this manner;—in the beginning, a thin bloody sanies is discharged, then by the disease increasing, a thick humour, not unlike the fæces of red wine; but no abrasions are voided; and sometimes during an interval of two or three days, the evacuation is suppressed, then returns again, with discharges, much worse than the former; which is not the case when there is an ulcer in the intestines: in which the patient has neither large stools, nor long intervals between them. When the ulcer is in the rectum, the disease is called a *Tenesmus*; it is attended with vehement straining, and a constant desire of going to stool. voiding at the same time but little, which in the beginning is pituitous and pinguious, but in length of time, a species of abrasions is also voided: but through the whole of the disease, the fæces from the superior intestines, have nothing of this sort mixed with them."

"Some writers mention, that after a great straining to stool, preceded by a vehement pain, a sort of callous stones have been voided, not unlike those which are generated in the bladder: but I have never seen them, nor have I ever heard of any person who has."

He says, in his Comment on the Epidemics, *lib*. iii. *comm*. 3, *sect*. 70, "that there are two sorts of dysenteries; one from an ulceration of the corroded intestines; and the other, when a copious discharge of blood from the veins of the intestines is evacuated."

In *Lib*. iii. *cap*. 7, *de Symptomatum Causis*, he says, "there are four different species of bloody excrètions, from four different causes; one of pure blood, from the loss of a limb, or from foregoing some accustomed exercise. Another, when from an imbecillity of the liver, a watry blood is discharged, like the washings of raw flesh. The third, when a black and shining blood is discharged. In these three species of excretions, the discharges are large, but in the fourth, the stools are smaller and more frequent: sometimes pure blood is voided, and sometimes in a concreted state; sometimes a small quantity of matter; also sloughs of ulcers, which are called ἐφελκίδες; besides membranous substances, which are parts of the intestines themselves; with these, excrements are often voided, having drops of blood in them. This last is an exulceration of the intestines, and which only, some writers will allow to be properly called a dysentery.

In *lib.* ii. *cap.* 5. *de Locis Affectis,* he says, "griping pains in the intestines are caused by a corroding humour, for which reason the dysentery is always preceded by these pains; which with an ulceration of the intestines, the modern physicians, and many of the ancients, call a dysentery. Some of the latter not only term this, but also any bloody excretion, a dysentery."

Some of our modern writers have disputed, with the ancients, respecting the propriety of describing the dysentery, with an ulceration of the bowels, because an ulceration is not a primary symptom, nor necessary to constitute a dysentery; being, as ALEXANDER of TRALLES observes, rather the effect than the cause of the disease.

But these discriminations are as useless, as the various divisions into which those moderns have marshalled different sorts of dysenteries; as the acute, chronic, bilious, malignant, putrid, benign, red, white, brown, grey, &c. which distinctions, in fact, are only applicable to the various appearances of the same disease, as influenced by climate, season, constitution; to different stages and degrees of it; and to such cases where some other disorder, or epidemic, is united with it.

HIPPOCRATES himself, it is certain, makes use of the epithet ἐρυθρα, red, *in Morb. Vulg. lib.* ii. and in other places; but he uses the word Δυσεντερια every where, in a general sense, as well as GALEN; distinguishing this disease from the Διαρροια, *Alvi Profluvium*, or Diarrhœa; and from the Λειεντερια, *Levitas Intestinorum*, or Lientery.

The *Diarrhœa* is described by ARETÆUS to be a flux of liquid and unconcocted aliment[*]; and by GALEN to be a plentiful flux of the belly, without any inflammation or exulceration of the intestines[†]. The *Lientery* is a disease, according to HIPPOCRATES and GALEN, wherein the food passes through the body, unchanged, uncorrupted, liquid, and without pain; and the body is wasted. *De Affectionibus, lib. cap.* 7. & *Aphor.* HIPP. *comment.* vi. *sect.* 1.

SYDENHAM, in treating of the epidemical dysentery in London, of 1669, 1670, 1671, and 1672, uses the word in so general a sense, that he has been attacked by some observers of trifles, for saying, at the setting-in of the dysentery in the first autumn, several had no stools at all; "*quamplurimi nullis omnino dejectionibus molestabantur*[‡]."

HIPPOCRATES speaks of the disease where the patients were not much afflicted with pain; *lib.* iii. *sect.* 54. *Epidemiorum;* δυσεντεριωδεες ου δ' ουτοι λιην επιπονως: and SYDENHAM says, that the epidemical constitution declining, the gripes were scarcely felt; "*tormina vix perciperentur* [§]."

---

[*] Cap. 7. de Sig. et Caus. Diut. Morb. lib. ii.

[†] Definition. Medic.

[‡] P. 182.

[§] P. 182.

Having premised thus much concerning the definition of the disease of which I am treating, and of which farther and ample descriptions may be found, by referring to ARETÆUS, AETIUS, CÆLIUS AURELIANUS, and ALEXANDER *of* TRALLES, I shall proceed to the first article for therapeutical consideration.

The immediate causes of all diseases, well understood and properly considered, point to their cure. It was an observation of the renowned SYDENHAM, that possessing this knowledge, and a correct history of a disease, he never was at a loss to prescribe a suitable remedy for it; and that he always proceeded with caution, until these circumstances were ascertained.

The disorder in question has been, I believe, more considered from its effects, remote, and concurring causes, than from its *immediate* cause; hence we may account for the inefficacy of the various attempts to cure it.

The pen of writers has done little more in the dysentery, than record the times and places, when and where, it proved most fatal; the appearance it put on; its symptoms; its devastation; variety of modes of treatment, that had no certain success; now and then a remarkable case; and the phænomena discovered on dissecting the dead*.

The great author above-mentioned, following nature as an unerring guide, never stopped at effects; neither did he bewilder himself in the search of those causes of diseases, that are not cognizable by our senses; but proceeded on to such as are immediate, or conjunct, and observed and assisted the means employed by nature to relieve herself struggling under the oppression of disease; or substituted a safer and better method, when hers was dangerous or ineffectual. To this principle the world is indebted for that inestimable work, which can only perish with it; a work founded on a basis applicable to all climes; that stands as the PALLADIUM of physic against the superstitious errors of the middle ages, and the ingenious chimeras of later times.

---

* The various appearances of the intestines after death from this disease, have been described by a multitude of writers; and many of their descriptions collected together by BONETUS, and may be seen in his admirable work, the *Sepulchretum, lib.* iii. *sect.* 11. But as dissections of this sort lead to nothing towards the cure of the dysentery, and as the appearance of the intestines varies according to the habit of the patient, and the duration of the disease, I have suppressed an account of many dissections I have made, as demonstrative only of its effects, which are sufficiently known to all practitioners.

He discovered the dysentery to be a fever of the season or, *of its own kind, turned inwards upon the intestines.*

"*Febrem eum esse sui scilicet generis, in intestina introversam* *."

His successors have made but little farther use of this excellent aphorism than quoting it; as their rules laid down for treating the disease sufficiently prove.

In the course of my experience in the West-Indies, and from every account I have been able to procure in that part of the world, I have invariably found the truth of SYDENHAM's opinion; and have remarked, that as the flux conforms by the number of stools, and by its rapidity, to the degree, so it does to the state of the fever, of the season, when it prevails; the stools being more frequent, and all symptoms more aggravated, at those hours when the current fevers are in their exacerbation, and the reverse when in their remission; besides, the alternate succession of one disease to another, I have frequently observed.

---

* P. 182.

Nor can it be doubted that this *Fever of the Intestines*, like most others, is caused by *obstructed perspiration;* not confined to cold, hot, wet, or dry seasons; particular food, water, liquors, or fruit: but chiefly depending on some secret influence in the atmosphere, or on sudden transitions of the air, and such other causes as expose people to have perspiration hastily stopped.

I know that writers have written very learnedly on remote, pre-disposing, and proximate causes; and lay great stress on heat and moisture, putrid ferments, infection, &c. &c. But upon a strict examination, we shall find that there has been too much attention employed on these vague, uncertain, and never-to-be-defined circumstances; while the immediate cause, or *primum mobile,* has escaped unnoticed.

Epidemical diseases can have but one general and immediate cause; for what pre-disposing cause can exist, where every diversity of habit of body, and age, is subject to the same symptoms, and cured by the same remedies? It is not to be doubted that a conjunct cause is necessary, by which one part becomes affected and not another; otherwise obstructed perspiration,

ration, the parent of so many, would always produce the same disease.

Though I believe that epidemical dysenteries have but one universal and common cause, and may be removed by one universal and common remedy; yet I do not contend that a particular disease may not be created by a particular cause, and be cured by a particular medicine. Accidental *stimuli* in the bowels have often caused this disease, and a little rhubarb and laudanum have often cured it.

It is said by CUSPINIANUS, that the emperor *Theophilus* died of a dysentery, which was caused by drinking a large draught of very cold water. FABRICIUS HILDANUS mentions a person to whom the eating of mushrooms had almost proved fatal by the same disease *. ÆLIAN says, that *Tachos*, an Ægyptian, a remarkably healthy man in his own country, lost his life by a dysentery in Persia, which he brought on by changing from his accustomed diet, to that of the luxurious Persians †. AMATUS LUSITANUS says, the people in India and Ægypt have dysenteries, from eating the flesh of animals that feed on *cassia fistula*[*]. — I have frequently known dysenteries caused by eating immoderately of such fruit as pine-apples and oranges, among people newly arrived in the West-Indies; and in Paris from drinking the water of the *Seine*; and from a change of water in many countries. But the cause of epidemical diseases is no more to be considered from particular cases, than the natural life of man is to be estimated, by the age of those that fall by casualty, or perish by untimely death.

---

* De Dysenter. cap. 10.

† Lib. v. cap. 1. Var. Histor.

The consequence of obstructed perspiration, from whatever cause, is either great inflammation, or great debility; and a plethora in the body, of much greater extent than what can be caused by the loss of a limb, or the suppression of the menses, or a bleeding at the nose: and yet HIPPOCRATES and GALEN assign these, which many other writers and frequent observations confirm, to be sufficient causes to produce a rupture of vessels, in other parts of the body.

By what conjunct cause this plethora, from obstructed perspiration, should be directed to the intestines, and not to the lungs, I do not know. If this conjunct cause be only some latent matter in the bowels, how comes it, that in camps, where the officers and men often use a totally different diet, and are in many respects under different circumstances; and in cities, where infants, adults, old people, and those of every description and mode of life,—fall indiscriminately in an epidemical season?

---

[*] Cent. ii. curat. 45. in scholia.

The great outlet for perspiration being the skin, it must ever be subject to variation in quantity, from the vicissitudes of the air.

In the temperate climate of Italy, it appears by SANCTORIUS * that perspiration amounts to five-eighths of what is taken into the body; we cannot, therefore, be surprised at the violent efforts nature immediately makes, on the sudden suppression of an habit of such extent: and if we attend to the stools of some patients, after the common contents of the bowels are discharged, before the blood-vessels are broken, and at intervals when there is no mixture of blood, or mucus, we shall find they are nothing but a serous, acrid fluid, secerned from the blood.

---

* SANCTORIUS says, fifty ounces of perspiration is discharged from a man in a day in Italy. KIEL computes that thirty-three ounces is the mean quantity in England.

As I have constantly practised in the opinion that an epidemical dysentery is a *Fever of the Intestines*, and that this fever is universally caused by the *obstructed perspiration* being determined there; so I have universally found it relieved by turning back that discharge to its natural channel: nor have I often found difficulty in removing it speedily, when taken in the beginning of the disease.

The common and fatal practice of attacking the disorder in the bowels, with opiates and astringents, is but aggravating the effect,—which at first is irritation, and distention of the mesaraic vessels,—while the cause is entirely neglected.

Among the multitude of *formulæ* proposed, we find snake-root, *Dover's* powder, and other diaphoretic medicines; but exhibited in such a manner, that they must often have produced more harm than good: however, it plainly demonstrates that the skin has not been really looked to for relief, much less has the process of SWEATING been considered as the only one to be relied on.

Some physicians recommend ipecacuanha in small doses, united with philonium, or opium:

others a course of ipecacuanha, in stages of the disease, when the inflammatory symptoms are over. The good effects from ipecacuanha are attributed, sometimes to its anti-spasmodic power; sometimes to its purging, and sometimes to its astringent quality. But with deference to these opinions, which have been numerous, I believe with FREIND, that ipecacuanha increases the tendency of the humours to the skin; and therein consists its use in fluxes *.

I apprehend that no astringent medicines, simply as such, will often be found proper in fluxes: this is daily evinced by gangrenes, obstinate obstructions, abscesses, dropsies or swellings, which arise when a flux has been injudiciously stopped by them †. A dysentery being,

---

* Radix ipecacuanhæ præter vim vomitoriam, quam obtinet, uberrimum sudorem excitare solet. Atque in hoc, quantum ego conjectura assequi possum præcipue consistit egregie, illa in dysentericis affectibus virtus, quam sibi præ aliis vomendi instrumentis vindicat.

FREIND, *Comment. de Febr.* p. 40.

† HIPPOCRAT. Prœnot. sect. 2. "Intempestivè suppressa Intestinorum Difficultas, abscessum in costis, aut in visceribus, aut articulis inducit." And GALEN de Ven. sect. adversus ERASISTRAT. cap. 6. says, "Melancholia, Insania, Pleuritis, Dolor Renum, Sanguinis Vomitus, Epilepsia, Hydrops, oriri possunt."

in its first stages, "*a Fever of the Intestines;*" and in every stage, as far as relates to the excretions, an increase of one discharge from the diminution of another; which cannot be effectually remedied, but by restoring the functions of the body to their natural order and equilibrium.

Senac gave emetic tartar in small doses; but he expressly says, he gave it as a laxative to keep up a free passage from the stomach to the rectum.

It is a common practice to give the glass, and other preparations of antimony, in casual doses, and uncertain periods; but the operation is always intended for the first passages. In this practice, though the *primæ viæ* are so necessary to be cleansed, I attribute the principal success, to the effects antimonials produce, in opening the obstructed capillaries, and preventing a reflux of humours to the bowels; for often in fluxes, when from carelessness and cold, antimonials have had their whole force and action turned upon the bowels, they have increased the determination of the fluids there, and brought on sudden death.

The activity of emetic tartar makes the direction of it difficult; it is in many respects a dangerous medicine in hot climates; the nervous system there being so irritable:—excepting merely as an emetic. It has done much mischief when employed as a diaphoretic in fevers and fluxes. The reguline virulence of the antimony being combined with acid, makes its operation, as a sudorific, very precarious; and it often proves fatal to the stomach.

Such preparations of antimony, as *James's* powder, that have, what has been termed the phlogiston of the mineral, mitigated, and the reguline part capable of action, from acidity, are best in these diseases, being more certainly sudorific; their operation in the stomach and bowels considerably depends on the state of the humours contained there; and they principally become active when nature requires it.

It has been supposed that the doses of these preparations of antimony cannot be so well ascertained, as its solution by the vegetable acid; for which reason emetic tartar has been preferred for use.

It must be admitted that emetic tartar is a certain vomit, and when given for that purpose, the dose is easily ascertained; but as it acts immediately on the stomach, it is frequently impossible to produce any other effects by it, in whatever dose administered. A very respectable physician, at the head of a medical seminary *, has greatly contributed to the general use of emetic tartar: and much abuse of it has arisen in hot climates, from respect to his authority and character.

It has been supposed also by the same professor, that the application of cold air, as a sedative, by abating the re-action of the vascular system, may be useful in some circumstances of fever; but he does not venture to pronounce in what. This dangerous conjecture too, we have seen followed; by the extravagant custom of exposing patients indiscriminately in fevers and fluxes, almost *sub dio*, and the mischief it produced disregarded.

A moderately cool, temperate air, is proper and necessary in every species of fever; but if any thing beyond that degree is meant, it cannot be supported by any reasoning that applies to the small-pox; though this gave rise to the speculation, and many experiments on it, in the southern parts of Europe.

---

* Dr. CULLEN.

The small-pox fever is *sui generis*, and terminates in phlegmons; it requires a treatment of its own; for example, cooler air than is required in a state of health is neceſſary; raising a sweat is prejudicial, and often changes the distinct into the confluent sort. On the contrary, in fevers, their solution is commonly by sweat: cold air applied, as in the small-pox, impedes that solution, and changes an intermittent into a remittent, or both into a continued fever.

It is not my intention to dispute the auxiliary aid, that may occaſionally be drawn from various purgatives, and even from various astringents, in certain conditions of a dysentery, diarrhœa, or tenesmus; or from rhubarb, absorbents and correctors, in unimportant complaints of the bowels, originating there, from acrimony and crudities; but to recommend a practice for removing epidemical dysenteries, by means adequate to, and that correspond with, their general cause.

It will occur to every practitioner,—as my intention here is the use of SUDORIFICS,—that I mean *a careful, continued course of them, to keep up a* SWEAT, *in extent proportioned to the violence of the disease*; and not the trifling way of giving them in small doses, whilst the patient is exposed, and their operation neglected. It will occur also, that *the sudorific employed must be suitable to the nature of the flux; the stage of it; and the habit of the patient.*

When I propose a method for the cure of this disease by a course of sudorifics, I am aware of no objection that can possibly attend the novelty of the doctrine; excepting that it wants the sanction of the fathers of physic, and has to oppose the errors and prejudices of custom.

But facts must support it, where this disease is most formidable, from the important consideration that success in war, the safety of possessions, and the protection of commerce, depend on the preservation of soldiers and sailors; among whom the flux has ever been found to make the most dreadful havock in the East and West-Indies; and on all service in hot climates.

Though I have had a succession of opportunities in my private practice, since the year 1768, to prove the extent of the doctrine I advance; I have also had many opportunities to prove its efficacy, in that degree of dysentery,

tery, which is no where to be seen but in military camps and garrisons: for which reason I shall illustrate the subject with a short account of the bloody-flux, as it raged among the troops in Jamaica, in April, 1780, and particularly in the camp at *Castile Fort*, with the method that I followed in the treatment.

This flux will appear to want almost all the usually-conceived remote causes of a dysentery; but it will be found, with the immediate one, common to all.

The state of the human frame for some time prior to the above period, underwent a multitude of diurnal transitions, from the absence, or presence of a violent sea-breeze: the weather was now remarkably dry, hot for the season of the year, and at times sultry. It was impossible to use the least exercise without being heated; and it was almost impossible to get heated, without being immediately chilled by the breeze*.

It is the soldier's life to be much exposed, and it is his custom to be careless of himself:

---

* When the breeze is violent, and what is called *fiery*, it checks perspiration, when people are exposed to it, in an active situation; making the skin dry and parched, and causing a feverish tendency.

when he is fatigued, or heated, he hastens to cool himself in the breeze, or night air, and perhaps throws off his clothes, and often lies down and sleeps in that condition. If he is wet, he dries his clothes, linen, and skin together. By these means, perspiration, the great fountain of health in hot climates, is suddenly stopped, and febrile strictures occupy the whole surface of the body.

A flux following these *data*, must distinguish itself by an inflammatory diathesis; and its progress will consequently be rapid.

The general symptoms were a chilness in the beginning, succeeded by feverish heats; gripings, and frequent small motions; sickness of the stomach, and sometimes retchings; copious purging soon followed, with green, brown, or yellow watery stools; these were now mixed with, or succeeded by great discharges of blood; several ounces of pure arterial blood were voided in a stream, every half hour, or hour; and some patients bled to death in this manner. The stools varied in fœtor, and appearance, according to the periods of the disease, and as they were more or less retained. A considerable degree of fever brought on the disease, and accompanied it with some;

been by the moderns, applied to the end I propose in the cure of intestinal diseases. An opiate, after its operation is necessary.

After the vomit and opiate, it is proper to empty the bowels, but with caution, in case the patient be weak; and in such a manner, as not to increase the determination of the blood there, and divert it from the surface; for then we should lose the ground gained by the vomit, and counteract our principal design. An antimonial that acts much upon the skin and purges at the same time, is what I always use.

The *primæ viæ* being cleansed, and the revulsion begun, it must be supported by sudorifics, that the disease may be thrown off by sweat: this will be effected by uniting an opiate with a diaphoretic, and administering it as occasion requires.

Laudanum and antimonial wine combined, is a medicine that causes little or no irritation, and is a pleasant and certain diaphoretic.

It is generally necessary in the flux, when a sweat is intended by antimonial, or other emetic medicines, in small doses, to add laudanum,

danum, to take off their irritation; by which means their doses and effects may be greatly extended.

James's powder is admirably calculated to answer the first intentions in this disease: it possesses this great advantage, that though it shall effectually cleanse the *primæ viæ,* properly given, it never fails to excite a plentiful sweat, and its effects terminate on the skin. This double operation, if I may so call it, perhaps has made it so decisive in obstinate fevers.

When the diaphoresis is begun, I cover my patient, if a soldier, with a blanket,—which no soldier should be without,—and take care that the wind is not admitted directly upon him. I do not suffer him to uncover himself, but order whatever he wants to be brought to him, and supply him copiously with warm barley-water, mint, sage, balm, or oatmeal tea; and now and then give him a bason of gruel, or thin flour pap, with a spoonful or two of good, sound white wine in it, as free as possible from acidity.

When the sudorific process has been successfully continued, all the symptoms grow milder; and if the patient break out in a rash, or efflorescent

rescent eruptions, or boils, the disease will soon be removed.

Should it be objected, that uncovering and exposing the patient while sweating, when he rises to go to stool, is a circumstance which militates against my doctrine; I answer, that where there are proper attendants and utensils, the patient need not be exposed, nor move from his bed; and that when once a complete and universal sweat is raised, the necessity for exposing the patient at all, will soon be at an end; as the disease sometimes suddenly disappears.

In the West-Indies, in the presence of several of the officers of different regiments, who were desirous to be spectators of a fact so interesting to the army, a soldier has been taken in the worst condition of the disease, with blood running from him, as in an hæmorrhage from a wound, and in the utmost agony; I have given him three grains of the common glass of antimony, finely prepared, and made into a small pill; this perhaps has operated upwards and downwards; but in promoting its operation to the skin, those other operations ceased, and a violent sweat has ensued; which was kept up by warm herb teas, and now and then small doses of laudanum, which may always be given with safety, and without any of its usual inconveniencies, while the patient is sweating, which is a fact worthy the attention of practitioners: even the first stool, after the sweating has been raised, has been less bloody, and the third, or fourth, frequently scarcely tinged.—Such is the power of REVULSION.

If the flux continue obstinate, and the sweats do not go on kindly, it will not only be requisite to carry off the morbific humours by a dose of the antimonial purgative, but repeated vomits of ipecacuanha are to be given. In this case the circulation has not been enough diverted from the intestines, to produce a full and sufficient diaphoresis; it is therefore necessary to give a fresh impulse to the fibres, by the action of vomiting: for in vomiting, the action of the stomach, and the contraction of the abdominal viscera, force the blood to the surface, and upper parts of the body.

Another cause of obstinacy in the flux, is indurated fæces, lodged in the intestines; and though the patient shall have been repeatedly purged, and taken nothing but fluids during his illness, it is amazing what *scybala*, or lumps of excrement, will sometimes be brought away, by a repea repetition of the antimonial purgative, after an interval of several days: for which reason, when the sweats have been plentiful, the pulse moderate, and the flux still continues, we may suspect this to be the case.—The extraordinary appearance these balls of excrement sometimes acquire from a long retention among the diseased secretions, has induced some writers to whimsical suppositions concerning their cause, and component principles.

Pringle says, he does not know whether those lumps, which have the appearance of *suet*, are the same which Hippocrates calls σαρκες, *carunculæ*.

Certainly they are not: for the σαρκες of Hippocrates (Σαρξ, *Caro*), are those excretions that Celsus calls "*carnosa.*" Galen says, they are the muscular substance of the intestines; and Cardan, that they are "*a mesenterio et vicinis* "*partibus erosis intestinis.*" Commentators in general observe, that they are "*secunda intesti*-"*norum tunica.*" Besides, Hippocrates remarks, that the σαρκες are a fatal symptom: ὁκοιαι ἀν σαρκες ὑποχωρησωσι θανασιμον*. However Brasa-

---

* Aphor. 26. sect. 4.

VOLA, in his comment on this passage, says, he has cured patients who have voided them.

The *corpora pinguia* are concretions by no means fatal, nor uncommon in the dysentery, though the *carunculæ* certainly are, notwithstanding what BRASAVOLA asserts: for as FORESTUS says, "—ita ut quædam *corpora pinguia* "duntaxat excernantur, facile curari poterit,— "ita ut veluti *carunculæ*, hoc est, magnæ intes- "tinorum partes excernantur, lethalis est talis "dysenteria." Lib. xxii. obs. 33. scholia.

The *corpora pinguia* have been always properly distinguished by every writer of experience and correctness, from the *carunculæ*, *strigmenta*, and *ramenta*.

PRINGLE has fallen into the same error respecting the *caseous*, or cheesy substances, frequently found in the stools of dysenteric people; supposing it actually cheese eaten by the patient. PLATERUS makes the same mistake respecting the pinguious substances.

I pursue the method I have related, regulating it as occasion may require, or particular occurrences suggest; until the patient is in a condition for bark, and other tonics and corroborants.

The flux will continue troublesome in some subjects from mere weakness, and relaxation of the vessels, without any material gripings or feverish symptoms; here I never hesitate to give bark, with snake-root and wine.

In all complaints of the bowels, particularly in the dysentery, bark should never be given in substance; it causes irritations and gripings; and either brings back the disease, or fills the patient with obstructions: a strong decoction, therefore, is ever to be preferred.

As the flux is always increased at the approach of night, so for some time after it has abated the pulse quickens, and the patient grows feverish in the evening: this is an admonition that we should desist from bark, and give a gentle diaphoretic at nights.

The remaining acrimony which sometimes keeps up a small irritation, after every other symptom is removed, may be corrected with absorbents, and carried off before the use of bark, or at any subsequent period if it should recur, with rhubarb and magnesia, or any mild cathartic.

During the convalescent state of those who have been much reduced, and to prevent a relapse, a flannel shirt, or jacket, worn next the skin, is very beneficial. When the bowels have suffered considerably by the flux, and cannot recover their tone, but from weakness are subject to returns of the disease, or to diarrhœa or tenesmus, on the least exposure to cold, a flannel jacket next the skin, will be found almost a certain remedy and preventive.

It is to be observed, when the attack is sudden and violent, it is often necessary to overtake the disease with opiates, and cordials, before any recourse to pathological reasoning is to be adopted; otherwise the patient may be exhausted and sunk, beyond the recovery of medicine.

Here I cannot help expressing my concern, that the aggravated symptoms which return in the morning, have not put an end to the custom, in the army and navy practice, of giving large doses of opium at night. When opium is given alone, and continued for any time, after its cordial effects are over, it weakens the vessels,

sels, injures the nerves, causes either a strangury, or a paralysis of the bladder, and lowers the powers of life: the humours, instead of being dissipated, accumulate in the diseased parts, that when the constipation it has created is off, the blood rushes forth with increased violence, and accelerates the patient's end.

Degner says, in his History of the dysentery at *Nimeguen*, in 1736, with many of his patients there was an entire suppression of urine, for six, eight, ten, or fourteen days *. Several writers mention suppression of urine among the symptoms of this disease; but as I have never seen any thing like it occur, where opiates, or astringents, had not been improperly used, I consider it rather as a symptom of mismanagement, than of the disease. From opium I have often observed this effect: and have speedily removed it, by increasing perspiration, and giving a cup of strong, clear, good Coffee, every few hours.

In the beginning of the disease, the intestines are in a state of inflammation; and in the farther advanced state of it, we find the mesenteric vessels and glands enlarged and obstructed; the intestines thickened, their coats tumified, relaxed, abraded, and hastening into a state of ulceration, or sphacelation. Opium, in these situations,—beyond which the disease is never curable,—must increase and multiply every evil.

---

* P. 18.

The real use of opium is to arrest the hurry of the disease: to procure time to put some rational method of cure into execution; to take off the irritating property of other medicines, and to give them their intended effect; and to ease those *tormina* which are sometimes intolerable. Here the matchless power of opium raises our admiration.

In the preceding history it will appear, that the flux is not confined to particular seasons and situations; that what have been commonly considered as remote causes, only give the type to the disease; and that its general cause, producible various ways, is *obstructed perspiration.*

The flux that prevailed in Jamaica, in the autumn of the year 1779, was attended with many of those causes, that are called remote. August, September, October, and the beginning of November, were unusually close and sultry, with frequent rains; the great discharge of perspiration from the rarefaction of the blood, in such a season, relaxes the extremities of the perspiratory vessels, and subjects them to sudden spasm and collapsion.

The camp dysentery, in low, damp, marshy countries in Europe, in the autumnal season, has all the concomitants, and type of a flux in hot climates, after heavy rains *.

There will be less disposition to inflammation, and the fluids will tend more to a state of dissolution;—yet it is *a Fever turned upon the Intestines*, for want of a free and regular perspiration, from the thickness and moisture of the atmosphere.

The irritation thus produced on the bowels, soon causes a violent determination of blood; and as the circulation is diminished in the vessels of the surface of the body, it is increased in those of the intestines.

---

* The *King of Prussia* and the *Duke of Brunswick* witnessed this melancholy truth, in consequence of the wet ground which their troops occupied during only two months in *Champagne*, in 1792. See page 218.

By this augmented action of the arteries, the progress of the blood is impeded in the minute ramifications of the vessels; hence extravasation and hæmorrhage; an immediate revulsion is therefore necessary; it must be extensive, but suitable, that there may be no mischief done, by increasing the debility incident to the disease.

Bleeding cannot be performed on every subject, nor in every stage, or condition of a flux; cathartics only cleanse the affected parts; emetics are limited to answer particular purposes; diaphoretics have never been used in a manner nor extent sufficient to produce an effect: and the custom of exposing patients to partial currents of cold air, in hot climates, prevents nature from doing any thing towards the cure.

The type of the disease being duly attended to, will indicate the quantity and nature of the evacuations necessary to facilitate revulsion; and it is safely and effectually completed, by a careful, continued course of SUDORIFICS, and dilution, carried on in extent proportioned to the disease.

Thus have I communicated what I conceive to be the general cause of the DYSENTERY, and explained the method I have followed in its cure. I have avoided the detail of minute descriptions, circumstances, particular cases, and dissections, as not coming within my design; which is, to explain my method of cure, applicable to the cause I have assigned of this disease, and comprised in the following considerations; that the dysentery is a *Fever of the Intestines*; that the cause is *obstructed perspiration*; and that the cure consists in turning back the circulation to the surface of the body, and increasing the sensible perspiration by the most active SUDORIFICS.

Induced by motives not to be resisted, I have ventured on the public, without the advantages of leisure and retirement; and as I have nothing to expect from the ornaments of diction, and composition, I have placed my *spes et solatia* in the rectitude of my intentions. The judicious and candid will judge of them, and determine how far an attempt to make some return for the benefits which we receive from society, is laudable, when it contributes to mitigate one of the great calamities of mankind.

⁂ Most of the preceding part of this Treatise has been several times published, in a separate tract, under the title of OBSERVATIONS *on the* DYSENTERY *of the* WEST-INDIES, *with a new and successful method of treatment.*

ON THE

DYSENTERY.

PART THE SECOND.

THE dysentery that raged with so much violence in the spring of the year 1780, in Jamaica, was the principal epidemic which the season produced, among adults; but there was a malignant ulcerated sore throat, that seized children and very young people, and proved fatal to almost every infant that was attacked with it.

This disease, which was the occasion of mourning to most of the families in the town of Kingston, was attended with very little fever, fœtor, or pain; for it sometimes was not discovered by the parents, or nurses of children, until a few hours before their death.

It was frequently unobserved until the whole throat, fauces, and palate, were intirely rotten.

Some who recovered lost their uvula, and part of their palate. Some had their speech and articulation afterwards considerably affected by it.

The disorder made its appearance in April, and continued through the remainder of the year; but gradually abated. In August, some children who had escaped the sore throat, broke out with very large boils. In September the sore throat attacked adults; but in them it yielded to purging medicines, gargles, and bark.

I used gargles made of decoction of bark and mel Ægyptiacum, in general practice; and from their efficacy, I lamented that the mel Ægyptiacum could not be used with safety for children. However, I found a solution of white vitriol and roch alum, a very good detergent, and almost never-failing remedy to cleanse their fauces with; and if a little of it were swallowed, it had always a good effect, by causing a small degree of retching; by which the stomach and throat were cleansed of mucus and sloughs, and great relief was obtained.

As diseases in hot climates in general are supposed to owe their origin to accidental, or incidental moisture, added to heat; and that those seasons which are most distinguished for the quantity of rain, are most distinguished for the quantity of diseases; it may be proper to remark, that epidemics frequently appear there, without the co-operation of any known cause whatever; and that neither the sore throat, nor the spring dysentery, were produced by wet weather, as will appear from what follows; which will also serve to give a general idea of the climate at, and near Kingston: where the heat is on an average 83 degrees of *Fahrenheit's*, or 22½ of *Reaumur's* thermometer, through the year.

1780, *January*. Two days rain in this month. Cold North winds four days in the beginning of the month. Land winds at nights. Very little sea-breeze in the middle of the days, and sometimes hot; but in general cool, and very healthful. On the seventh of this month, at ten minutes after eight o'clock in the morning, a severe earthquake happened. Its direction was from S. E. to N. W. About ten minutes after the shock, there was a small undulation of the earth; and at ten minutes after ten, another undulating tremor[1]

---

[1] There was no rain in this month in 1779.—In 1781 three days.

February. Five days rain; three successively. A strong sea-breeze day and night, in the middle of the month, and sultry weather. Very cold, day and night, during the rains on the 22d and 23d. Land wind at nights[2].

March. No rain this month. Mornings and evenings cool. Middle of the days hot. A strong sea-breeze in the days, and land wind at nights[3].

April. One day rain. Violent sea-breeze, gusty and turbulent[4].

May. Four days moderate rain. Sea-breeze violent[5].

June. Twelve days rain; three at one time, and seven at another successively. Strong sea-breeze[6].

---

[2] There was no rain in this month in 1779.—In 1781 none.

[3] There was no rain in this month in 1779.—In 1781 three days.

[4] It rained three days in this month in 1779.—In 1781 five days.

[5] It rained six days and nights successively in this month in 1779.—In 1781 six days, at intervals.

[6] It rained three days successively in this month in 1779. In 1781 eleven days, at different times.

July. Four days rain. Sea-breeze moderate. Sultry nights.[7]

August. Five days rain. Sea-breeze in the middle of the day only. Intensely hot in the mornings before the setting in of the breeze. Light land wind at nights[8].

September. Nine days rain; four successively. Sultry in the absence of the breeze, which was strong about noon. Land wind at nights[9].

October. Eleven days violent rain. Storms of wind accompanied the rain on the second instant, which increased to an hurricane on the third, and continued all night. Cold during the rain. Hot at other times. Land wind strong at nights, and cold. Little sea-breeze, and very cold days in general[10].

---

[7] It rained one day in this month in 1779.—In 1781 nine days.

[8] It rained eight days in this month in 1779; five successively.—In 1781 four days, at different times.

[9] It rained four days in this month in 1779.—In 1781 ten days.

[10] It rained seven days in this month in 1779.—In 1781 twelve days. See pages 14 and 200.

November. Three days slight rain, successively. Close, hot days. No sea-breeze, excepting now and then for a few hours, in the middle of the day. Land wind at nights, and colder than usual at this season of the year[11].

December. Three days rain. Nights and mornings very cold. North winds some days. The weather cool and agreeable[12].

This statement of the sensible alterations of the atmosphere, in which the expressions of *cold* and *hot* are to be considered comparatively, and those days numbered as rainy, not as intire days of rain, but only when it rained for a few hours, or part of a day, is sufficiently minute to shew how far its influence might have prevailed, in the production of those diseases which marked the year.

I have already said, the 85th, 92d, 93d, and 94th regiments, arrived in Jamaica on the first of August this year, for the *San Juan* expedition*;—that the first battalion of the 60th, and the 79th and 88th regiments, were already in the island; that the flank companies of each regiment were encamped at *Castile Fort,* and afterwards at *Up-Park;* that the encampment continued from the beginning of August to the end of November; that I had the care of the camp hospitals; and that there were, by my return on the 12th of September, 267 men ill, chiefly of the dysentery, with some bilious and remittent fevers, in the different hospitals of *Castile Fort* and *Up-Park;* and in the barrack of *Rock Fort,* which was then used as an hospital.

---

[11] It rained six days successively in this month in 1779.—In 1781 seven days, at different times.

[12] There was no rain in this month in 1779.—In 1781 two days.

* P. 180.

In the treatment of the dysentery (in which, notwithstanding the numbers that were attacked by it, we did not lose one men in the acute state of the disease), whether attended with fever or not, I proceeded with the sudorific process, as I had done in the spring. This autumnal flux, like all fluxes that I have seen, exerted its influence most on those who were most exposed to the weather.

Dysenteries, as well as other disorders, in hot climates, in autumn, partake more of a putrid, than of an inflammatory nature; and perspiration is raised with less difficulty; and with gentler medicines, than it is at other times, when the fibres are more rigid, and the air more dry and elastic; for which reason, mild diaphoretics, such as antimonial, or ipecacuanha wine, and laudanum, were used in the camp this autumn; and evacuations, particularly bleeding, were sparingly made. Sometimes the sweat raised by the first vomit of ipecacuanha, assisted by diluting with barley-water, mint, balm, or sage tea, put a stop to the disease.

I never gave ipecacuanha as a vomit, nor glass of antimony as a purge, in the dysentery, latterly in the West-Indies, but previously to their operation, I ordered the patient to his bed, and disposed him for sweating. This I found by experience always insured that operation, on which the cure depends; and sometimes carried the whole effect of the medicine off that way, without either vomiting or purging, and with it, the disease.

In London, during winter, a person had taken a dose of *Glauber's* salt, and the same evening went into a warm bath; after which he returned to his own house. In the night he was seized with pains in the bowels, and a constant irritation to go to stool. The next day he voided blood, and bloody mucus, and had a complete dysentery. He took chalk julep and laudanum for two days; but the symptoms increasing, he had bloody excretions almost every quarter of an hour, with great straining, anxiety, lassitude and fever. Being consulted, I advised him to go to bed, and to take ten grains of *James's* powder; to cover himself well; and to dilute, and promote a sweat; and to continue the sweating, by repeated doses of *James's* powder, every four hours, drinking plentifully of warm balm, or mint tea. The *James's* powder made him retch a little at first, and he continued to have several griping stools, until the powder produced a plentiful sweat; after which, the pains abated; he had no stool for twenty-four hours; he took three doses of the powder, and was cured.

Whether antimonial diaphoretics, or ipecacuanha, be used to promote sweating, must depend on the habit of the patient, and the nature of the disease. But for the ordinary dysenteries, which prevail in European climates, particularly in autumn, ipecacuanha is generally to be preferred.

It is my common practice, now in London, when called to a dysenteric patient, to order him to bed, and to give him a scruple, or half a dram, or two scruples, of ipecacuanha; and direct that the operation of sweating, rather than vomiting, should be promoted. As vomiting always produces sweating, the patient being in bed, it is easily supported by diluting: and I have often, with the sweating caused by a single large dose of ipecacuanha only, cured the dysentery.

There is no danger of inflammation, and its consequences, when a flux ceases suddenly, after sweating, as there is when it has been suppressed by opiates and astringents. In plethoric habits an increase of fever sometimes succeeds, which is soon removed by bleeding, and a continuation of diaphoretics and dilution. Sometimes, from the suddenly suppressing the flux, though there shall be neither fever, nor dysentery, while the patient remains in bed, dysenteric symptoms will return, as soon as he gets up, or goes into the air:—these are easily removed, by a table-spoonful of the VITRIOLIC SOLUTION, every eight hours*; with, occasionally, a little chalk julep and laudanum.

When the glass of antimony is used, great care should be taken that it be finely levigated:

---

* The preparation of the VITRIOLIC SOLUTION will be described, towards the conclusion of the third part of this treatise on the dysentery.

and in the dose, that the strength of the patient be considered.

Another circumstance attends giving it when the patient is in bed; which is, that its action on the bowels being abated by perspiration, a much larger dose may be taken that way: and let me repeat, that an active dose of any antimonial should never be given while the patient is up, and walking about. Ten grains of glass of antimony will act less on the bowels, while the patient is in bed, than three grains will while he is up, and the whole effect turned upon the bowels, by being exposed to the air. Besides, sudden death has been frequently brought on by spasm, from antimonials carelessly administered *.

If the glass of antimony incline the patient to vomit, I advise diluting but sparingly, unless what is brought up indicates foulness of the stomach; but copiously otherwise.

From the effects of the *vitrum antimonii ceratum,* I have never been able to discover that the antimony derives any benefit whatever from its mixture with the *wax*. An active dose of either must be given, or it answers no end; and if melting the antimony with the wax weaken its force, a greater quantity must be given to produce a proper effect.—Therefore, I always use the common glass of antimony; preferring a simple medicine that I can depend upon, to a compound medicine that must be liable to uncertainty in its operations, according to the attention, or carelessness, employed in its preparation.

---

* For spasms in the stomach or bowels, caused by antimonial medicines, laudanum is the only remedy; and it immediately removes them.

The operation of the glass of antimony, in common with all the preparations of antimony, in proportion to their activity, is exercised on the first passages. But every preparation of antimony is more or less diaphoretic, whether it create a nausea or not, while any part of the mineral remains undestroyed in it. We perceive this in those, which are called the *calces*; and however violent the operation of the stronger preparations are, their last effort in the body is always at the cutaneous pores *.

---

* Since the last edition of this work, my sudorific process in the dysentery, with the glass of antimony, has been followed, in Norfolk Island, by Mr. Thomas *Jamison*, surgeon there. His interesting, and judicious account of the disease, and his successful practice, may be seen in the Gentleman's Magazine, for June 1797.

It is remarked, by LIND, "that antimony appears to possess a virtue eminently febrifuge, which it frequently exerts independent of *any evacuation* *." It would, if it were so, be very remarkable; but the truth is, that antimonials are not febrifuge, where no evacuation is produced, and the stomach remains unnauseated.

After the cerated glass of antimony had been introduced into public practice, in the dysentery, its reputation soon spread over all Europe; but from the unguarded manner of giving it, while the patient was exposed, and walking about, without more restriction than was used in a common vomit, or purge, it was always dangerous, and it soon sunk into discredit. The timid might well refrain from using it; for it sometimes surprised them with the most violent and unlooked-for effects. The dose of it was from two grains, to ten, or twelve, sometimes to twenty, according to the age and strength of the patient; and the dose was repeated every twenty-four, or forty-eight hours, as occasion required. It was given fasting, and the patient was "*forbid drinking any thing after it for three hours, unless very sick, or disposed to vomit; in which case warm water, as in other vomits.*"—"*In its operation, it sometimes makes the patient sick,*

---

* P. 260.

and vomits. It purges almost every person, but I have known it cure without any sensible evacuation or sickness *."

It is this unperceived, and insensible evacuation, to the preceding writer, for which I contend; and by which all violent degrees of dysentery, let the species or description be what it may, when the *primæ viæ* are cleansed properly, may be cured, if they are curable at all.

This axiom I know is repugnant to the opinion of the learned BOERHAAVE, who insists on the necessity of a variety of methods, and a variety of medicines; and strongly condemns the recommending any one universal way of curing a disease †. But I must dissent from that great man, and in this very disease which he instances: for I believe he only took this notion from an hint given by SYDENHAM ‡.

---

* YOUNGE's account of the *Vitrum Ceratum Antimonii*, in the Edin. Medical Essays, Vol. v. Pages 164, 165.

† Quam vanum, fallax, et damnosum sit, ad has commendare unum, qualecunque demum sit, medicamentum proprium? aut unam universalem medendi methodum? Aph. 977.

‡ Fieri possit, ut variæ enascantur dysenteriarum species, ut sunt variolarum et epidemicorum aliorum, diversis constitutionibus propriæ, et quæ proinde medendi methodum in aliquibus diversam sibi suo jure vindicent. P. 181.

I might indeed have many scruples in setting up a theory against so great an authority as BOERHAAVE; but in practice I can have none, where the fact has been supported by the testimony of my own eyes, in many thousands of instances; and no dogma, however respectable, can convince me that bark is more certain in the cure of an ague, than sudorific medicines, properly adapted, are in an acute dysentery; early used, after the first passages are cleansed, before deep ulceration, or gangrene, has actually taken place,—under every diversity of season, climate, and constitution.

In the history of the dysentery, many practical writers have noted the relief which has followed a plentiful sweat; and that the pains and frequency of the stools have abated, during a free discharge by the skin.

SYDENHAM's process with whey, in 1669, was effectual, because it promoted sweating. In the following years it did not answer, as a change had taken place in the disease, and less dilution was necessary, when it became less inflammatory, and, as he says, "had lost much of its subtilty, and proved more humoral," and yielded to purging medicines and opiates.

Fabricius Hildanus remarked that a woman who had taken forty grains of lapis bezoar, in a dysentery, broke out in an universal warm sweat, and that all the symptoms abated; she soon after fell into a sound sleep, and in a few days was intirely recovered.

Lamoniere observed, that a sweat checked the violence of the disease immediately: and Baglivi says, a sweat happening commonly cures it.

Hillary was surprised that the delirium, tremors, and all other bad symptoms, went off from a free diaphoresis, which was raised by small doses of ipecacuanha and diluting; and says, "we must not always expect to meet with such happy success in every patient's case;" yet, he says, he had "more than twice seen this method succeed."

But these instances, with many others, have been considered merely as accidental events, inimitable by art; and not as materials to found a regular system on.

Hippocrates himself allows the good effects of sweats, even though they were not on critical days. He says, "that though a crisis may happen by the mouth, by stool, by urine, or by the joints, yet a sweat is a crisis common to all diseases *."

Though a crisis in fevers may be completed by stool, by urine, by bleeding at the nose, or by abscess, yet these are often only the harbingers, or the followers of a crisis; but a warm, and uniform sweat, accompanied with sleep, never is: and is always in itself, invariably, if not interrupted, a perfect termination of a fever.

Sydenham found when a sweat was kept up for twenty-four hours, it was the best cure for the plague and pestilential fever. He says, "that the patient is always stronger while the sweat flows; that several, by his advice, who were kept in a sweat for twenty-four hours, were so far from complaining of greater weakness from thence, that they declared, that in the same proportion as the superfluous humour was carried off, they perceived their strength increase. That while the sweat continues, the patient judges himself in a fair way of recovery, and, in the opinion of the attendants, seems in no farther danger; but as soon as the sweat ceases, and the body begins to dry,

---

* De Acutorum Morborum Victu, sect. iv. art. 75.

he grows worse, and a kind of relapse is occasioned."

He directed the sweat to be kept up for twenty-four hours, by draughts of sage posset drink, or mace ale, taken now and then; strictly cautioning against wiping off the sweat, and not allowing the patient's linen to be changed, however moist or foul it was, till twenty-four hours after the sweat was gone off: during which time he was advised to be careful not to get cold, but to let his linen dry on his body, to take all his liquids warm, and to continue the sage posset drink. The next morning a purge was given. He says, he did not lose a single patient after he began this process *.

Caius, after much unsuccessful experience, found that the cure of even the *Sweating sickness*, consisted in keeping the patient in bed, and promoting a continued, and moderate sweat for twenty-four hours: "sudandi, ministrandique tempus ideo horis 24 definio, quod hæc ratio fælicis tutæque curationis atque ministrationis esse solet †."

---

* P. 126, 127.

† De Ephem. Britan. p. 110.

HELMONT indeed goes so far as to assert, that all fevers may be cured by sweating, and even with a single dose of one medicine.—"Unica nimirum falce amputatur omnium febrium causa occasionalis. Id remedium est sudoriferum. Etenim istud remedium est Præcipitatus Diaphoreticus PARACELSI, qui omnem sanat febrim unicâ potione *."

We have not drawn all the benefit we might have done, from the stores of diaphoretic medicines, that chemistry and improved science have opened to us, which were shut to our ancestors. Their alexipharmics were composed of treacles, possets, and heating compositions; which, to raise a sweat, were generally assisted by hot rooms, and a heavy load of bedding. Thus the circulation was forced, and in case a sweat was not excited, the inward flame was increased, the blood-vessels ruptured, and a train of evils produced, which in the end killed the patient. From hence it is that we are furnished with such

---

* De Febribus, cap. xiv.

HELMONT, or his editor, has made a mistake here. The medicine used by PARACELSUS, and, as he says, "quo morbus omnis curatur, qui potest vel debet ex sua natura proprietateque sanari sudoribus," was his *Specificum Diaphoreticum*, and not his *Præcipitatus Diaphoreticus*. Vide PARACELS. Archidox. lib. vii. p. 27.

frightful histories of bubos, petechiæ, exanthemata, and carbuncles, which at this time are rarely seen.

When a patient is first covered up, and has taken his diaphoretic medicine and drinks, in the beginning of a dysentery, particularly in hot climates, it may reasonably be expected, if he be young, gross, or plethoric, that sometimes, instead of sweating, he become restless and hot; his stomach loaded, and his skin dry: here bleeding, or an emetic, is necessary, which never fails to dispose the body to sweat. A very small quantity of blood taken away, and what almost any patient may spare without injury, or ten grains of ipecacuanha, when the patient is weak, will generally be sufficient to answer the end.

It happens sometimes also in the dysentery, and very commonly in fevers, that large doses of *James's* powder, and other antimonials, are given, and frequently repeated, without causing perspiration. Here I have found practitioners perplexed, and making wrong conclusions;—finding neither perspiration, nor any other evacuation produced, they still persist in the antimonial, and augment the dose, supposing a great deal must do what a little will not; which only increases the fever and brings on delirium, unless a sudden operation, upwards or downwards, breaks forth, which may endanger the safety of the patient.

It has always been a rule with me to desist from any powerful or active medicine, or to combine something with it, where a common dose, or quantity, has not produced the desired effect,—whether vomiting, purging, or sweating, be intended; or whether the medicine be bark, opium, antimony, or mercury *.

Where Antimonials have been taken, as I have here mentioned, without a proper effect, and where bleeding, or vomiting may be improper, a dose of laudanum acts like a charm; and brings on

---

* I was lately called to a patient, a young woman of delicate habit, who had rubbed in twelve ounces of properly made *unguentum mercuriale forte*; that is, six ounces of quicksilver,—without affecting her mouth, in any manner whatever. The process had been injudiciously persevered in, for seven weeks; and the consequence was, that the mercury, unexpectedly, turned suddenly on the bowels; producing excrutiating pains, and bloody excretions; accompanied by vertigo, and faintings. These things abating, she was seized, with distracting head-achs; then with insanity.—By warm-baths, and purging, chiefly, she was cured. The original disease, which was cutaneous, but not from *Siphylis*, was removed by the mercury.

on immediate relaxation of the vessels, and profuse sweat. Some people mention difficulty in raising a sweat, particularly in fluxes; but there is no difficulty in it, which the methods here related will not remove.

When the dysentery is translated into a fever without flux, or has degenerated into a diarrhœa or tenesmus, the treatment must be regulated according to the habit of the patient, the nature of the disease, and its duration, as from any other origin. But as these diseases seldom spring from the dysentery, when the sudorific mode of practice has been pursued, especially when it has been early attended to, and when warm cloathing and careful diet have been used until the bowels have recovered their tone, I refer to what has been written on these subjects by others; thinking it unnecessary to enlarge my publication with the cure of diseases, that a faithful adherence to the practice it contains will be found effectually to prevent.

Whatever opinions may have been propagated and honoured with credit they do not deserve, I think it is necessary to inform practitioners unacquainted with hot climates, that I never saw a dysentery during my residence in the West-Indies, in which even the mildest acids were not prejudicial. Nay, I have frequently known dangerous relapses, occasioned by the patient's eating a small piece of a pine-apple, or orange; and that such wines only, as are entirely free from austerity, are proper to be used in the dysentery in those climates [*].

As to *contagion* from infection in the dysentery, I must confess I never saw an instance of it; nor do I believe there is any such thing: either in this disease; or in the plague; or in any other pestilential fever [†].

But this is a field for speculation; and has long amused the pedantry of the schools.

For my part, I cannot even venture to conjecture, what that agent is which determines the species, and spreads epidemical diseases. HIPPOCRATES seems to have placed it in the evident changes, and cognizable state of the air; SYDENHAM, to some inscrutable influence, and imperceptible quality of it.—If SUCH DOCTORS

---

[*] The troops in some of the islands during the American war, were liberally supplied with thin, sharp, French prize wines, by way of œconomy:—this œconomy cost the nation the price of many valuable lives.

[†] On this subject I must refer the reader to my Treatise on the Plague, in my *Medical Tracts*, p. 207. ed. 2d.

TORS disagree, "who shall decide?"—There are some diseases, we know, that follow changes of the atmosphere; but there are others, which make their revolutions, and visit the earth at uncertain periods, for which we can trace no cause; depending on combinations, in which, perhaps, the influence of the planets may have some share. But on this subject, I shall say more hereafter.

It has often happened that hundreds of men in a camp have been seized with the dysentery, almost at the same time, after one shower of rain; or from lying one night in the wet and cold. People under similar circumstances of clothing, air, water, diet, and situation, must be subject to similar diseases, as far as constitution and habit of body are similar:—and yet it often happens that the dysentery begins with a few people, and spreads itself by degrees, until a multitude are affected, and the disease becomes general.

It is incredible, that the smelling a little human blood, that had stood some months in a phial, gave the man a dysentery, mentioned by PRINGLE[*]: or that the person FORRESTUS speaks of got the plague, by only putting his hand into an old trunk[*]: or that the shaking an old feather-bed, which had lain by seven years, raised a plague at *Wratislau*, which destroyed 5000 persons in twelve weeks, as related by ALEXANDER BENEDICTUS[†]: so is the story of the leather coat of FRACASTORIUS[‡], and the hogs of BOCCACIO[§].—Such things may be true; but when probability is shaken, reason inclines to scepticism.

---

[*] Page 255. ed. 1768.

I am far from supposing, that any writer of reputation aſſerts what he himself disbelieves;—nay, I do not doubt that PARACELSUS was in earnest, when he said, "mulier sub ascendente malitiosa genita, infantem in cunis, per aspectum et verba incantare potest; sic fieri quoque perfacilè potest, hominem unum alteri hunc morbum per imprecationem infligere posse[||]."

---

[*] Lib. vi. observ. 22.

[†] Cap. 3.

[‡] Lib. iii. cap. 7. De Morb. Contag. Curat. He says twenty-five Germans had the plague, and died, by putting on an old leathern coat, one after another, infected by the plague at *Verona*, in 1511.

[§] *Giornata Prima*. He says, that, during the plague at *Florence* in 1348, two hogs fell into convulsions, and died within an hour, only by tearing and snuffing upon some rags, which had been worn by a man who died of the plague.

[||] De Pestilitate, tract. ii. cap. 2.

I can even imagine that CARRICHTERUS was serious when he says that making water through a birch broom will cure impotency,—"tunc fac ut æger supernè in hunc scoparum fasciculum urinam mittat; et statim in integrum restituetur *."

We observe in camps, and hospitals, that those people whose dirty employments subject them in a particular manner to a depravation of their habits, seldom escape the present epidemic; and this gives rise to the vulgar expression, and very incorrect notion, of *catching* the disease.—And, we observe, that others, from the slightest deviation from regularity, lose the power by which the body resists diseases, and they are also attacked. But these effects are not to be attributed to infection; for those people, who keep the vital and animal powers in uniform confederacy, by temperance and calmness of mind (for fear, by lowering the vital energy, subjects the body to disease), nourishing diet, proper clothing, and cleanliness, and by keeping a free and regular passage open for all the excretions, are proof against the assaults of foul and pestilential air. Such people seldom suffer, even by the plague itself; while all around them perish. In Constantinople, the plague, with filth, and neglect, the effects of mahometism and predestination, generally go together, and are seldom seen asunder.

---

* CARRICHTER. Curat. Morb. Magic. art. Impotentia virilis, ut vir debitum conjugale persolvere nequeat.

It should follow, if contagion were supported by infected bodies, that no person could ever escape infection (as at Oxford assizes in 1577), who was within the sphere of its action; and that those who were entirely secluded from it, and free from all contiguity to infected people, or substances (as the collegers were in the town of Cambridge when the plague was last in England), would be exempt from it.

But in opposition to this, RHAZES lived 120 years, and often practised in plagues. HODGES remained in town, and attended the sick, during the great plague in London in 1665. KAYE was in the midst of practice in the sweating sickness in 1551, without any inconveniency. PROCOPIUS informs us, that during a terrible plague at Constantinople, in 543, which almost destroyed the whole city, no physician, nor other person, got the plague by attending, dressing, or touching the sick *. Yet most of the Capuchins, the Jesuits, the Recollets, the Observantines, the Barefooted Carmelites, the Reformed

---

* De Bello Persico, Lib. ii. cap. 22.

Augustines, all the Grand Carmelites, the Grand Trinitarians, the Reformed Trinitarians, the Monks of Loretto, of Mercy, the Dominicans, and Grand Augustines, who kept themselves secluded in their several convents, and took every precaution to avoid the plague, while it raged at Marseilles, perished by it *.

There are no epidemical nor contagious diseases, that attack every person who breathes the same air, or that is in contact with the infection; else whole regions would be entirely depopulated. The habit must be graduated, or adapted, for the reception of a disease. In some constitutions of body the access is easy, in some difficult, and in others impossible. But where the revelation of this mystery is to be found, no one can tell.

To people who have not seen the rapidity with which the dysentery, in its worst degree, makes its ravages in hot climates, that saving of time which I propose, and followed in my practice, by deriving a double operation from antimonial purgatives, or emetics, and ipecacuanha, by always keeping the patient in bed, or well covered with a blanket and disposed to sweat,

---

* Journal de la Contagion à Marseilles, p. 42.

as soon as he had taken those medicines,—may seem unnecessary.

The time was, when it certainly would have been thought of with horror*; and there may be still, for aught I know, some remains of that ancient ignorance, which has seen the good effects of a vomit of ipecacuanha, a little toasted rhubarb, and an anodyne draught.

If any such opinions yet remain, it is not my intention to dispute with them; nor with devotees to settled forms, and foes to innovation; who may think that a vomit, purge, or diaphoretic, ought each to have its regular bedside period: and that nature, like themselves, cannot be forced to do two things at once.

Neither shall I contend with HELMONT and his disciples, concerning the moral causes of fevers; nor with CAMPANELLA and his followers, who pretend that a fever is no disease;—for I know that even HIPPOCRATES, CELSUS, and SYDENHAM do assert, that it sometimes proves salutary; and is often the instrument which nature employs, to expel morbific causes from the body. The former opinions are incomprehensible to me; and the latter I consider as a *norma loquendi* among physicians, which cannot apply to original, nor even to symptomatical fevers; unless it can be proved that nature always justly proportions the means to the end, and that people never perish under her hands.

---

* WINSLOW prostrated himself before the altar, having ventured to give a patient *two ounces of manna* for one dose.

Whatever may be the moral necessity of one evil in the works of nature to remove another, or the utility of such remedies as fevers, of which people die, I am of opinion, that diseases should seldom be left to nature; and were I not confirmed in this opinion by my own practice in the dysentery, I should be inclined to it from the success of SYDENHAM; who took some diseases out of her hands, when her methods were uncertain, and gave them a speedy termination.

For my part, I have no opinion of nature as a medical despot, nor of obsequious physicians as her ministers; which may be thought heresy in the temple, where the high priest himself says, *νουσων φυσιες ιητροι* *.

---

* *Nature cures diseases.* Epidemiorum, Lib. vi. sect. 5. art. 1.

Nature, in her best manner, is tedious in the cure of diseases; and even when assisted by HIPPOCRATES, took fifty-one days to cure *Pythodorus* of a fever. Where her shorter methods are pursued, unobstructed, how precarious are her attempts; and what breaches are often made in the body, and what destruction of parts follow, by hæmorrhage, and abscess!

The science of physic must be considered as extremely imperfect, and literally "ars conjecturalis," until we can take a disease entirely out of the hands of nature; and set up, or take away, such operations in the body, as are necessary to terminate diseases when, and how we please. This I know may be done in many endemical diseases; and in such as are constant in their appearance; and in those that are the produce of certain places, and stated seasons of the year.

Wherever this practice is used, the doctrine of critical days, so holily observed by the ancients, makes but a small figure in the healing art; and will be as little regarded, or relied on, when followed in temperate climates, as it is in polar, and equatorial regions.

Nature, in the torrid zone, seldom cures any disease;—all acute diseases are found to make a regular, but hasty progress to death. There, all the oracular prognostics of the divine old man, are not so confidently to be relied on, in fevers, as four or six hours sound sleep, accompanied with a warm, universal sweat.—But it requires the exertion of consummate skill, to protect nature from the fury of the disease, until this composure is obtained.

However adequate the trifling practice, in common use, may be to the conquering of slight fluxes, arising solely from *stimuli* in the intestines, and may accord with the convenience and situations of the higher ranks of people in luxurious life, it is otherwise when applied to those with serious diseases, in inferior stations, and in indigent circumstances; and never should be thought of where great masses of people are crowded together in jails, hospitals, ships, and armies.

ON THE

DYSENTERY.

PART THE THIRD.

AT first, when I determined on this publication, it was my intention to have given a specimen of the practice of every author of reputation, who had written on the dysentery; that those who are remote from the advantage of libraries, might have, in a small compass, all the information suggested in different parts of the world, on this important disease, that lies scattered through a multitude of books; which I thought would extend the utility of a publication of this sort as much as possible.

But the dysentery being a subject so universally discussed among physicians, and on which one would imagine it was disgraceful to be silent, I found by farther investigation, that the smallest extract from every author who has written thereon, would be a voluminous work of itself; and of more curiosity than utility. Therefore, I have collected only the most interesting circumstances, that have occurred to me in the course of my reading on the subject; and I flatter myself, though I have abridged my original plan, that the compilation I have made will be of use to young practitioners, in the navy and army, and to residents in the colonies; and that it will also save much trouble to such as have but little leisure, and many opportunities of making and comparing observations on this disease, in various climates; and who prosecute their enquiries with an intent to publish them. It will also shew that many authors have arrogated to themselves discoveries which belonged to their predecessors; and may prevent others incurring the mortification, that must necessarily follow the propagating old doctrines, as novelties.

Indeed there is so little useful discrimination on this disease, to be found among writers after GALEN, that if we except TRALLIAN, the rest are very little more than compilers; — or copiers of GALEN, who was himself a copier of the antient Greeks; — and those of later times, commentators on their predecessors, descanting on their practice, and disputing concerning the use, and abuse of acrid, and unctuous glysters, bleeding, vomiting, purging, fruit, astringents, opiates, &c.—and in more recent times, about contagion, rhubarb, ipecacuanha, and saline medicines.

From the moderns, all that I can collect amounts to no more than this:—that different practitioners, having seen the disease under different circumstances, conclude that every person beside themselves, has been mistaken respecting the true method of treating it.

One physician has seen the dysentery attended with great fever, and he insists that copious bleeding, by way of evacuation, is the cure for it; and quotes TRALLIAN, or BOTALLUS, for his authority.

Another has seen an autumnal dysentery in marshy situations, and insists that bleeding is pernicious; or, if performed, that it should be done in very small quantities, by way of revulsion; and quotes GALEN, AETIUS, and TRALLIAN, for that.

Another has seen the dysentery abounding with bile, and acrid discharges, and declares that fruits and purging are the cure; and quotes TRALLIAN's example there also.

Another has seen the dysentery where crudities and foul-humours have prevailed in the first passages, and insists that fruits are destruction; and says HIPPOCRATES has forbidden them in all diseases of the bowels.

Thus we have been furnished, in different parts of the world, with books supporting every hypothesis, that contradiction and local prejudice could invent; without the smallest concession, that these contentions concern but accidental symptoms, which will ever be subject to variation: and that the principles of the disease itself, must be attended to on far other grounds than these.

It was not by such methods that SYDENHAM raised his fame. What would his character now have been, if after his success with *whey*, by which he cured all his patients in the autumn of 1669, he had published to the world that *whey* was a certain remedy for the dysentery;—when in the following year, nay, in the cold weather of the same year, he found it had no effect?

He would have been obliged to have contradicted himself; or to have copied VANDER HEYDEN, who had before written on the subject, and like him, to have remained the author of a great absurdity.

In the following selection, it will appear, that I have omitted a multitude of writers; but I believe none, who, however judicious, have any claim to originality.

HIPPOCRATES, the great master of our art, says, among the general and particular causes of dysenteries, that after an unusually dry winter, with northerly winds, if a rainy spring succeed, with southerly winds, dysenteries will prevail in the summer; particularly among women, and people of a moist habit*. That after a winter with southerly winds, rainy and mild, if the spring should be very dry, with northerly winds, dysenteries will prevail†. That long continued dry weather will produce dysenteries‡. That dysenteries may arise from bile and phlegm falling on the bowels, and there corroding and ulcerating them§. That

* Aphor. xi. sect. 3.

† Aphor. xii. sect. 3.

‡ Aphor. xvi. sect. 3.

§ De Affect. Lib. cap. 7.

black bile may cause dysenteries; then they prove mortal [*]. That a diarrhœa may cause a dysentery [†]. That people past their youth are most obnoxious to dysenteries [‡]. That a plethora, from the loss of a limb, by amputation, may cause a dysentery [**].

In respect to his practice in the dysentery, the following is a specimen:

"℞ Fabarum purarum quadrantem; surculos rubiæ tritos duodecim; commisceto, et coquito, ac opimè delingenda hæc porrigito." *De Acutorum Morborum Victu,* sect. 4. art. 105.

He advises warm fomentations to the belly, when the pains are severe, and glysters of milk; and when there is fever, to use emollient and unctuous glysters often, to discharge the sharp humours. Milk was his general medicine in the dysentery. Asses milk, goats milk, or cows milk. Sometimes he gave crude milk; sometimes boiled milk; and sometimes milk with hot stones quenched in it [¶].

---

[*] Aphor. xxiv. sect. 4.

[†] Aphor. lxxv. sect. 7.

[‡] Aphor. xxx. sect. 3.

[**] De Articulis, sect. 4. art. 38.

[¶] I have omitted the treatment of the son of *Eratolaus*, (Lib. vii. art. 5. Epidemiorum), as that more than seventy-one

In Aph. LXIV. *sect.* 5. he admonishes against giving milk, when there is any pain in the head, and when there is fever and thirst; and where there is a copious discharge of blood, or a bilious purging, with an acute fever.

In the writings of this venerable man, there is a passage relating to the dysentery, concerning the meaning of which, the learned have disputed:

Πορνειη αχρωμος δυσεντεριης ακος *.

Impudens scortatio dysenteriæ medetur.

Calvus, the first translator of Hippocrates into latin, from the Vatican manuscript, reads Πορνη, *Meretrix*, instead of Πορνειη, *Fornicatio*; and supposes αχρωμος to be the name of a woman who had a remedy for the dysentery, and translates the passage thus:

Meretrix Achromos dysenteriæ medela.

Dacier is of opinion that Hippocrates has been made to say what he never intended; and thus translates the passage:—

---

one days illness, was cured principally by asses milk at first; and cows milk afterwards, with some austere black wine in it.

* Epidem. Lib. vii. art. 140.

la fornication est un méchant et détestable remede à la dysenterie.

He alleges, that the reading should be αχρωμον, instead of αχρωμος, and agree with ακος; and that αχρωμος is an old word, and not to be found in any author but HIPPOCRATES and ARTIMEDORUS; and that it has no certain and determinate meaning.

SUIDAS explains it *immodest, impudent,* but that it also signifies *detestable* and *wicked;* as αχρωον, of the same import as αχρωμον, is explained by HESYCHIUS, πονηρον, wicked. *Remarques sur le troisieme livre de la Diete.*

LE CLERC supports DACIER's opinion. *Hist. de la Medicine, Lib. iii. cap.* 30.

Whatever may have been the original text, in this paſſage, or the real opinion of HIPPOCRATES concerning a remedy, "en ce qu'il blesse l'honêteté et la bienséance," we find a similar allusion in another part of his works*; and an unequivocal decision on this point in the learned STAGIRITE:

Δια τι τα αφροδισια την κοιλιαν ψυχει και ξηραινει †;

---

* Epidem. Lib. vi. sect. 5. art. 28.

† Prob. xviii. sect. 4.

In obstinate diarrhœas, many others have adverted to the same circumstance.

"Alvi profluvia inveterata aliquando per Venerem resiccantur *."

"Alvi profluvium inveteratum Venus resiccat †."

CELSUS, *Lib. iv. cap.* 15, says, Among the diseases of the intestines may be reckoned the *Tormina*, by the Greeks called Δυσεντερια. In this disorder the intestines are exulcerated on the inside; blood flows from them, mixed with fœces, which are always liquid; sometimes with a kind of mucous excretions, and sometimes caruncles are discharged with excrements; there is a frequent desire of going to stool, with a pain in the anus; some inconsiderable discharge is made with the same pain, and the torment becomes more intense; which, however, after some time, is alleviated; the patient has very little rest; his sleep is interrupted; he becomes feverish; and after a considerable length of time, either perishes under the inveteracy of the distemper, or escapes with much difficulty and torment.

---

* AETIUS, Tetrab. i. serm. 3. cap. 8.

† PAUL. ÆGINETA, Lib. i. cap. 35; & AMAT. LUSITAN. Cent. ii. obs. 47.

First of all, the patient must have rest; for all agitation promotes the exulceration of the parts. Then he must drink, fasting, a cup of wine in which the bruised root of cinquefoil has been added. Apply repellent cataplasms to the belly. As often as he goes to stool, let him wash with a decoction of vervain. Let him eat purslain boiled, or out of strong pickle, and use an astringent diet.

When the disease is farther advanced, he advises glysters of cremor of ptisan, or milk, or melted fat, or stag's marrow, or oil, or butter of roses, with the raw white of an egg, or decoction of linseed; or, if sleep be wanting, with the yolks of eggs in a decoction of rose-leaves. He says, these things mitigate the pain, and are of great benefit when there is a loathing of food. He says, THEMISON used strong brine in such cases.

The food to be such as gently binds the belly; diuretics are serviceable if they have their proper effect, by diverting the humour another way, otherwise they increase the disease; for which reason they are not to be given, but to such people as have been accustomed to receive benefit from them. The common drink, if the patient be feverish, should be pure warm water, or water endowed with an astringent quality: or if there be no fever, thin, austere wine. If, after several days, the patient find no relief from these things, and the disease grow inveterate, he advises the drinking water of a good degree of coldness, which he says astringes the ulcers, and lays the foundation for a recovery; but when the purging is stopped, the patient is to return immediately to his warm drinks. When a putrid and fœtid sanies is discharged, or pure blood comes away in the stools, the belly is to be well cleansed with glysters of hydromel, and those other remedies before-mentioned. He says, an effectual remedy against a cancer of the intestines is a lump of minium bruised, with half a pound of salt; or a glyster of the same with water. If blood be voided in the stools, the patient is to eat and drink such things as are of an astringent quality.

DIOSCORIDES, *Των ϖερι τα ἐντερα ϖαθων Βοηθηματα*, recommends in the dysentery, among a multitude, the following remedies, with wine, or some astringent decoction;—agallochum, sage, juice and herb of hemp, agrimony, the juice and dried root of cinquefoil, hypocistis, juice of horehound, pimpinella leaves and root, willow root, comfrey root, seed and leaves, wild-sorrel seed, water-lily seed, decoction of marsh-mallow root, bramble-bush juice and stalks boiled, goat's milk boiled, alcea root, cudwort with austere wine, elatine boiled with linseed, agrimony seed with wine and honey first boiled, wild fennel seed, white ivy flowers, with wine twice a day, myrtle-berries with wine, lotus boiled in wine, Lemnian, or Sinopian earth in wine, wild sage root with wine, œnanthe, bull-rush seed toasted, chondrilla juice, orris with wine, mullen-root, flea-wort in water, dry album græcum moistened with wine, coagulum of a hare in water, &c.

Among the articles of food, are mallows without salt, ripe fresh olives, blood of a goat, deer, or hare fried, dry ripe grapes, unripe dry grapes made into bread with flower, bread toasted and yolks of eggs, starch boiled with chondrus and milk, blackberries, plantain-leaves and green tender branches of bramble-bush boiled and taken with vinegar and oil, galls, or rhus mixed with the food, zea roasted, lentiles roasted and powdered, grape-stones powdered, millet, zea, rice, and lentiles toasted, grecian beans boiled in posca, linseed fried and eaten with honey, honey boiled, taken alone or with promegranates, quinces and ripe medlars boiled with honey, myrtle-wine, juice of myrtle-berries, wild pears, succory, parsley and plantain boiled in vinegar, pomegranate-shells, walnuts, dates, purslane, deer's fat boiled with cheese, or flower, the liver and brain of a goat fried with honey, new cheese scraped and fried with honey, young swallows roasted, bees-wax, or honey-comb boiled in the drinks, cabbage twice boiled, raw unwashed lettuce; where there is a loathing of food, the coagulum of a young hind, hare, or kid, dissolved in water and drunk, &c.

Cataplasms to be applied to the belly, composed of oleaster-flowers, and barley-meal, mixed with warm oil and water; bramble-bush leaves, quinces, and cerate; myrtle-leaves beat up with wine and oil of unripe olives; pomegranate-shells boiled in wine with cerate; barley-meal, bramble-bush, and wine; alum, with aloes and acacia, &c.

Glysters of fresh butter, and others composed of decoctions of mallows, fenugreek-seed, &c. when there is no pain, pickle, with wine; burnt hartshorn, with wine and oil of roses; arsenic, twice burnt with paper, and wine; scoria of lead with myrtle-oil; bitumen, melted with ptisan, &c. where there are eating ulcers, fish-pickle; old urine; decoction of greek beans with goat's suet; red earth with astringent decoction, or sharp brine, &c.

To assuage the griping pains excited by acrid glysters, others are to be given composed of milk, or butter, or decoction of chondrus; or of suet, with cremor of ptisan; also fat of fowls, geese, or deer; or marrow of a deer or calf, by itself warm, or with cremor of ptisan.

In his chapter on milk, he recommends boiled milk, and milk with hot flints quenched in it, for fluxes and ulcerations of the intestines.

Galen says, an eating or sharp humour is the cause of the dysentery, which at first absterges, then abrades, and at length ulcerates the intestines. *De Locis Affectis, Lib.* i. *cap.* 2. That it may arise from a plethora; in which nature relieves herself by the intestines. Hipp. *de Nat. Hominis Comment.* i. *sect.* 32. From the loss of a limb, from indolence after an active life, from obstruction of the menses. *De Locis Affectis, Lib.* v. *cap.* 8.* He also mentions among the causes of a dysentery, phlegm, yellow bile, and black bile.

---

* See page 227.

He confirms the opinion of HIPPOCRATES, that a dysentery arising from black bile is mortal. *De Usu Partium, Lib.* v. *cap.* 10. He observes, that an ulcer from black bile must be mortal, unless the unsound parts are cut intirely away from the sound, which cannot be done in the intestines. *De Atra Bile, cap.* 5.

In the treatment of the disease, he says, it contributes greatly to the cure of the disease, to know in what part of the intestines the ulcer is situated; for if it be in the superior intestines, the remedy is to be sought for in medicines which are to be taken by the mouth; but if the ulcer be in the inferior intestines, it will be most proper to have recourse to glysters. *De Locis Affectis, Lib.* vi. *cap.* 2.

He expressly forbids bleeding in the dysentery; and says, in *Comment.* iv. *art.* 98 *de Acutor. Morb. Victu,* "fluente alvo sanguinem non detrahes; nam si post detractionem perseveret fluor, vires prosternit." In *Lib.* i. *cap.* 15, ad *Glauconem,* he makes the same objection against purging; he says, "sed nec, si cum alvi profluvio febris fuerit, alia vacuatione est opus.

Verum ipsum per se sufficit, etiam si non sit pro plenitudinis ratione. Quicunque enim ab iis, tanquam majori inanitione egentibus, vel sanguinem ducere, vel ventrem movere ausi sunt, in gravia pericula præcipitarunt."

In *Lib.* x. *de Simpl. Med. Facult. cap.* 8. he recommends whey in glysters, to absterge and cleanse the intestines, and to be taken inwardly. He says, when any thing of a drying nature is added to it, it is the best remedy in the dysentery, and all acrid fluxes of the belly. This quality it acquires, he says, by being first boiled, and then having hot stones, καχληκες, quenched in it. He says milk is an excellent remedy in sharp corroding fluxes; but that it should be first boiled to consume its serous parts: and advises farther, that it should have hot irons quenched in it.

The anti-dysenterical medicines of Galen, as well as those of his predecessors, contemporaries, and successors, down to the sixteenth century, were nearly all alike, and chiefly composed of the following articles:—

In glysters they used, as detergents and astringents, arsenic, burnt paper, brine, lime, alum, sea-water, wine, opium, &c. In assuaging and emollient glysters, milk, wax, goat's fat, and the fat of other animals, flower, starch, &c. With such internals as galls, tormentil, acorns, chesnuts, opium, cheese, saffron, alum, coagulum of animals, eggs boiled in vinegar, austere wine, astringent fruits, album græcum, burnt hartshorn, earths, boiled milk, chalybeated milk, and milk with hot stones quenched in it; with external applications, cataplasms, fomentations and baths.

The following specimen of GALEN's formulæ, from *Lib.* ix. *cap.* 5, *de Compoſ. Pharmac. ſecundum locos,* with the particulars already mentioned from DIOSCORIDES, may give an adequate idea of the practice of those times: and supersede the necessity of repetitions from subsequent writers, many of whom have done nothing more than copy them, without the addition of a single article of the smallest utility. If any farther information be required, respecting the formulæ of the ancients, it may be found in the collection made by NICHOLAS MYREPSUS.

Ad Dysentericos, quo UTOR.

"℞ Gallæ, fructus ericæ, opij, singulorum drachmas quatuor; cum aqua redigito in pastillos duorum obulorum. Dato ex aqua aut vino."

Ad Dysentericos, Cæliacos, et Hæmoptoicos, è CORNELIO *Medico.*

"℞ Myrrhæ, thuris, aloes, croci, opij, rhois syriacæ et coriariæ, lycii Indici, acaciæ, malicorii, succi hypocistidis, gallæ, balaustiorum, singulorum par pondus; in pastillos cogito; et ad noctem, febre carentibus ex vino, fabricitantibus, ex frigida, dato."

Infusum, quo UTOR.

"℞ Chartæ ustæ ʒxxx. auripigmenti ʒxij. gallæ ʒix. calcis vivæ ʒxvi. bituminis ʒxvi. sulphuris vivi ʒxvi. sandarachæ ʒxvi. Misce."

Aliud, quo UTOR, GEMELLI.

"℞ Auripigmenti ʒviii. sandarachæ ʒ iiii. calcis vivæ ʒviii. squamæ æris ʒvi. aluminis scissi tantumdem; omphacii, ʒviii. lycii Indici tantumdem; succi papaveris ʒiiii. succi hypocistidis tantundem, croci ʒii, ego autem ʒiiii. chartæ ustæ ʒxx, aliqui ʒxvi. Excipe vino myrtite; fac globulos, quorum singuli sint ʒiiii, et trium. Infunde cum vino diluto."

GALEN says, it was a custom in his time to give raw onions and bread, the patient drinking but little, and the next morning glysters of the sharpest pickle. This remedy, he says, brought on convulsions, faintings, and cold sweats, and killed many people: but those who survived its violence, were speedily cured by it. Here he gives us a proof of his excellent wit, as well as of that profound judgement for which he is so justly famed. He makes proper reflections on this sort of practice, and also points out the danger of the improper use of anodynes. *Method. Medend. Lib.* xii. *cap.* 1.

ORIBASIUS, *Synops. Lib.* i. *cap.* 19, recommends glysters of sea-water.

AETIUS, *Tetrab.* iii. *serm.* 1. *cap.* 43. *et seq.* advises rest and a spare diet; and rain-water for use, that has not been received by lead gutters, or cisterns, as such water causes dysenteries. If rain-water cannot be had, good spring-water must be used; but well-water should be avoided, as it abounds with saline properties, which disturb the bowels.

If the disease be caused by acrid food, or yellow bile, it is generally cured. And if black bile in the beginning be voided, which is discharged into the bowels, in consequence of the solution of some fever, we must not despair of a cure; but if spontaneously, and without any fever preceding, black bile be voided, and no good concoction appearing, the dysentery is incurable, as it does not differ from an ulcerated cancer, and is always mortal.

ANTILLUS relates, he says, that a person having swallowed a gold-ring in joke, voided shreds and bloody stools, caused by the asperities of the ring cutting the intestines; but by boldly giving him strong purgatives, he voided it by stool, and was well the third day.

It is wonderful, says AETIUS, what good effects are produced by such plasters as are used to bleeding wounds, after the inflammation is abated, and such as are used for fractures, applied round the whole belly and loins, to the back.

If the impetus of the blood be vehement, with great inflammation, and particularly in plethoric habits, bleeding must be performed, if the strength will permit, and where any accustomed discharge of blood has been suppressed.

Much blood is not to be taken away at a time, nor suddenly; both disturb the belly; and great care must be taken that the patient is not sunk by it. The intention of bleeding is not for the quantity of blood, but as it were to transfer the humours to another channel. A little blood, therefore, and from a small orifice, taken away slowly, mitigates the inflammation, causes a revulsion of the blood from the intestines, abates the inward heat gradually, and conduces to sleep, rather than to sink the patient; and sleep is the best remedy for dysenteric people.

When the ulcers are cancerous and malignant, what the Greeks call *κακοηθης*, the disease is generally incurable; but the best remedy to mitigate the pains is fresh ass's milk drunk warm; and if the patient could bear the use of it, he should take no other nourishment.

MARCELLUS EMPIRICUS, *de Medicament. Lib. cap.* 27, advises puppies, ducks, and frogs, to be applied to the belly, which, he says, will draw out the disease, and they will be killed by it, but the patient will be cured. He advises the belly of the patient to be anointed with bat's blood, and to give him human urine, and to put his legs in cold water, up to his knees, and drink very warm austere wine, which, if there be no fever, will speedily cure him. He says, that *glass* powdered very fine, and sifted, with an equal quantity of mastic, given in boiled wine for three days together, or longer, if there be occasion, is a wonderful remedy.

Paul. Ægineta, *de Re Medica, Lib.* iii. *cap.* 42, says, a dysentery is an ulceration of the intestines. When much blood is voided by itself, the disease is called a *bloody dysentery.* When blood is voided that is blacker than its natural colour, and shining, the liver does not properly concoct the aliment that is distributed to it; and when also, from its debility, the discharges are like the washings of raw fresh meat, it is called an *hepatic dysentery.* He advises, where there is great heat, the eating succory, and the drinking cold water. He recommends rain-water for use. If the flux continue obstinate, he advises a large sponge to be wetted in some hot astringent wine, and to be applied to the whole of the superior part of the belly.

ALEX. TRALLIANUS, in *Lib.* viii. *cap.* 8. *de Dysenteria quæ Rheumatica dicitur*, says, he calls that a rheumatic dysentery, which arises from the humours discharged from the mesaraic vessels, and a reflux of the chyle; which being mixed with the bile, causes an acrimony that excites the intestines to expel their contents. He says, if the disease continue long, it causes an ulceration of the intestines, which is properly called a dysentery. He advises abstinence, the first two days of the disease; and if the patient be young and strong, and the season permit, bleeding in the arm, and not a less quantity than two *heminas* (nearly twenty ounces) of blood is to be taken away. The cure afterwards was chiefly performed with milk.

He says, many unskilful physicians do not hesitate to give medicines in the beginning of the disease, composed of opium, henbane, black poppy, or mandragora, to procure sleep, and ease the pains. They are deceived, from the patient's sleeping all night, and the stools ceasing; but when the morning returns, they find their labour is in vain; for the humours being collected, are now expelled without intermission, with great heaviness in the head, loss of strength, and an increase of the flux.

Therefore such medicines should not be given without great necessity.

He condemns sweet fruits, as they cause wind, and, from their humidity, easily generate acidity: but he advises astringent fruits [*].

In *cap.* 9, *de Intestinorum ulceratione, quæ propriè Dysenteria Græcis dicitur,* he says, the antients called those *dysenteries* in which neither the liver nor any other part was affected, but only the intestines, with an ulceration. When the disease is in the upper intestines, the cure must be performed by medicines taken by the mouth. When it is in the lower intestines, or about the rectum, it must be cured by glysters. Therefore it is first necessary to have a proper idea of the disease; — for he that knows a disease best, will best know how to cure it.

When the disease arises from an abundance of vicious humours, where the patient seems relieved by the stools, and where astringents have been used, and the purging increased afterwards, bleeding is not improper, and sometimes purging. But when bleeding is performed, it should be done gradually, at different times, and in small quantities, that the patient's strength may not suffer. The same precaution is necessary with respect to purging.

---

[*] THEODOR. PRISCIAN is another author who terms the dysentery an *ulceration of the bowels* with a *Rheumatism.*

When the disease is in the rectum, with a tenesmus, he advises a moist vegetable diet, in order that a lax state of the body may facilitate the expulsion of the fæces. He says, he knew some people that were absolutely cured of the dysentery by eating copiously of plumbs, by which means the stools passed with ease; and others by eating a large quantity of grapes.

He says, warm baths are useful in the beginning of the disease; particularly when drinking cold water, and a cold diet, have preceded the disease; or when there is a suspicion of phlegm.

But care must be taken that the matter which is sometimes discharged in the stools, coming from a corrosion in the bowels, be not mistaken for phlegm and cold humour; which is often done by the ignorant.

In this disease he purged with scammony, and aloes;—his other remedies were like those of his predecessors.

In *cap.* iii. *lib.* 8. *de Imbecillitate Jecoris et Dysenteria,* he advises *Rheum barbaricum:* which is the first instance among medical writers of the mentioning *Rhubarb.* He used it as a strengthener, and not as a purgative:—"robur adjicere "et confirmare."

Avicenna, *Lib.* iii. *fen.* 16. *tract.* 1 & 2. remarks in this disease, that sometimes the intestines are perforated by the ulcers, and that the corruption escapes into the abdomen, and death ensues. He says, it is asserted that some who have had a perforation in the inferior intestines, have had an abscess formed in the belly; which being opened, the stools have been discharged there, and the patient has lived; but though such a case may be possible, it is very improbable; and more so that the patient should survive it, and continue to void his excrements at the opening*.

A flux

---

* Matt. de Gradibus, Part II. pract. 12. says, he saw a case of this sort, where the patient voided his excrement at the wound, and lived for twenty years afterwards;—some other writers have mentioned similar instances.

I was consulted for a young lady, who voided her intestinal fæces at the vagina. She became hectic in

January,

A flux is often caused by acute diseases, fevers, and tertians; and is often a crisis in these cases; but that fluxes coming suddenly after an acute disease, portend death.

He says, sleep is of all things the most beneficial to people with fluxes; and recommends baths and frictions with warm oils, to open the pores, to bring the humours to the surface of the body.

Dry-cupping the belly, he says, has often removed fluxes and excoriations of the bowels, in four hours; and that he has himself experienced it.

His remedies are taken from GALEN and the Greek writers, and are chiefly composed of galls, earths, gums, astringent herbs and fruits, old cheese freed from its salt and toasted, album græcum, coagulum of a kid or hare, stomach of an ostrich dried and powdered, milk with hot stones or irons quenched in it, eggs boiled in

---

January, and died in July, 1799, from marasmus and diarrhœa. The body was opened by a respectable surgeon in Chelsea, and myself. We found the rectum considerably perforated, two inches above the sphincter. The perforation and corrosion in the vagina was still larger. She suffered no pain of consequence at the parts.

vinegar, opium, saffron, pepper, green vitriol, ginger, chesnuts, acorns, gum arabic, whey, with cataplasms, glysters of butter and dragon's blood, &c.

He cautions against the use of narcotics, and says, that they should be used in cataplasms rather than in glysters, and in glysters rather than by the mouth. He advises rain-water in preparing the food; and drinking cold water.

Where there is a flux of blood, without an excoriation, that is obstinate, he advises tight ligatures, and strong frictions, to be applied to the hands; and the patient to be put into cold water in the summer time, and into the cold air in the winter; and that he should drink cold water, and his drinks, &c. to be cooled in snow.

When there are ulcers and excoriations in the intestines, the humours are to be carefully evacuated by gentle purgatives. He says, rhubarb is a wonderful remedy in ulcers of the intestines and fluxes, taken in plantain-water, with a little old wine.

FERNELIUS *de Morbis Pestilentium, cap.* 13. says, that the dysentery raged over all Europe in the year 1538, and that scarcely any town was free from it:—without any known or apparent cause, from any particular state, or change, in the atmosphere.

J. HEURNIUS, in a note, *de Morb. Intestin. Lib.* vi. *cap.* 10. FERNELLII,—says, that garlick, with sugar and lemon-juice, was found to be a remedy for people who had returned to Amsterdam from the East-Indies, afflicted with the dysentery, from living on putrid food, in 1597. O. HEURNIUS mentions the same remedy for dysenteries in long voyages.

FORRESTUS, *Lib.* xxii. *obs.* 31. *et seq. de Dysenteria,* says, a young man was seized with a dysentery from eating a great quantity of grapes without bread; and was cured by a glyster. Another young man, in Paris, in 1545, from drinking freely of impure new wine, was attacked with a vehement diarrhœa, and the next day with a true dysentery, and was cured by glysters, one of which was composed of "eight ounces of cow's milk, in which hot stones had been often quenched; four ounces of plantain-juice, two ounces of oil of roses, and the yolk of one egg," given cold.

He purged with rhubarb, in powder and infusion alone; sometimes myrobalans and tamarinds were added. He gave toasted rhubarb often. He cured a man in 1583 of a dysentery, by a dose of toasted rhubarb, and myrobalans, powdered, taken in a cup of beer. He sometimes fomented the abdomen. He condemns the ancients, who gave salt water, and acrid glysters, such as had arsenic, lime, sandarach, &c. in them.

He condemns the giving opiates, without the greatest necessity.

He says, dysenteries are sometimes contagious and pestilential; and that there was one so at *Delft*, in December, 1567; another in the winter, 1580, in which he gave gold filings, pearls, bezoar, &c.

HOLLERIUS, *de Dysenteria, cap.* 43, says, the cure consists in bleeding, purging, lenient, detergent,

tergent, and consolidating glysters, potions, and external remedies. He prefers rhubarb before all other purgatives, which is to be frequently repeated. In the beginning, he gave only an infusion of four scruples of rhubarb (more or less), in succory, or some other simple water; with, sometimes, a little syrup of dried roses. In the progress of the disease, he added a scruple of the powder of rhubarb to the infusion; and afterwards he gave toasted rhubarb, as having an astringent quality; also a decoction of mastich (two drams to a pint of water), with some wine; or rain-water, in which hot gold had been quenched. The cure was finished with astringents, after proper evacuations to carry off the offending matter. He used the arsenical, and other acrid glysters of the ancients; but recommends adding opium to them. He says, promoting sweat, where the patient is strong, with a bath, or steam, composed of sudorific things, is very serviceable. He says, in the autumn of 1557, he cured all his patients with lenient glysters, and rhubarb only; and did not lose one among the many he attended. He mentions the case of a monk, in which black stools were voided, and the patient recovered.

DURETUS, *de' Dysenteria Annotat. Morb. Int.* HOLLERII, disapproves of toasting rhubarb. He advises a pint of warm oil of roses, or a pint of warm oil of almonds, with four ounces of the mucilage of quince-seed, for a glyster, to alleviate the pains and inflammation: it is to be retained as long as possible. He disapproves of glysters composed of vitriol, auripigmentum, and caustic preparations. He says, a man had some arsenic applied to a tumor on his wrist, by a surgeon, which caused his head to be affected, and he died in great misery in two days.

BALLONIUS, *Consil. Medicinal. Lib.* ii. *consil.* 23, says, dysenteries are either intestinal and mesenterical, or hepatical; and that it is absurd to attribute all dysenteries to the intestines. He says, the disease ought to be called *Tormina* rather than *Difficultas Intestinorum.* He advises purging, before the use of astringents; and when there is great heat, and when the stools are acrid and sharp. He advises, milk in glysters, and says, that oily and anodyne glysters are often hurtful. When purging is necessary, he recommends cassia and tamarinds.—But as there are different kinds of dysenteries, he says the remedies must be various,—" nec quemadmodum multi faciunt, quasi eumdem soccum et cothurnum omnibus aptant *."

A flux suddenly stopped by rhubarb, occasioned a tension of the abdomen; it was removed by repeated bleedings. Diuretics and diluting are, in some cases, beneficial, and, in some, hurtful; but, he says, their use has been much disputed. *Vide, Consil. Medic. Lib.* ii. *consil.* 53.

SEPTALIUS, *Animadvers. & Caut. Med. Lib.* vii. *de Dysenteria,* advises in the dysentery, when purging is necessary (as in gross habits, and when there is a bitter taste in the mouth, and the stomach disordered), rhubarb, myrobalans, tamarinds, manna, syrup of roses, and such mild purges, to evacuate the sharp humours. He says, rhubarb causes great pain sometimes, given alone, in substance; and that toasting it moderately, contrary to the opinion of others, increases its purgative quality. When the pains are great, anodynes by the mouth and in glysters are recommended; but not too often repeated. Fat and unctuous glysters are advisable when the bowels are abraded; and abstergent glysters where the ulceration is sordid and of long standing. He forbids drying glysters of arsenic, and such things; and where acrid glysters of pickle of olives, or lixivium of sope, are given, that another should be given immediately after, composed of oil of roses, or ptisan, or decoction of bran, with syrup of purslain, and eggs, to alleviate the pain and sheath the bowels. In order that the glysters may be retained, he advises a flannel wrung out of an astringent decoction, to be applied and pressed to the anus.

---

* See Page 277.

BOTALLUS (Opera Omnia ed. 1660) *de Curatione per Sanguinis Missionem*, disregards the opinion of GALEN, where he says bleeding should not be performed on people "under the age of fourteen years, and past sixty;" and contends for the utility of bleeding in the dysentery, lientery,, and diarrhœa. He gives some examples where the dysentery was cured by copious and repeated bleeding only; and others, where bleeding, and purges of infusion of senna and syrup of roses, completed the cure*. He says, his brother, then seventy years of age, had laboured under a palsy, and spasmodic complaint, from his youth; and that during all that period there had scarcely ever passed a month in which he had not been bled once, twice, or even three times; and seldom in a less quantity than ten ounces, and often more than a pint [*].

---

* Cap. 3. p. 136. et seq.

BOTALLUS was a great patron of blood-letting, and the first who introduced the frequent practice of it among the French, about the year 1580. He used it in pestilential fevers, accompanied with exanthemata, and even after the appearance of swellings, "et aliis hujusmodi abscessibus præmaturè prorumpentibus [†]." We find SYDENHAM quoting his authority in defence of his own, where he recommends copious and repeated bleeding in the plague. BOTALLUS bled in almost every disease, and ingeniously defended his practice. He approves of the sentence of GALEN, "sæpe spasmum, hydropemque sanguinis evacuatione sum medicatus;" and recommends it also as preventive often against dropsies [‡].

---

[*] Cap. 8. p. 184.

[†] Cap. 5. p. 151.

[‡] Cap. 15. p. 209.

PLATERUS *de Dejectione, cap.* 11. recommends rhubarb as a purge before all others. He says; when rhubarb is toasted, it lessens its purgative quality; and if it be toasted too much, it destroys all its virtues. At first it should be given in powder, from half a dram to four or five scruples; or in infusion; if afterwards it is required to be more astringent, it may be toasted a little. Bleeding is forbidden; and he admits of vomits only when the cause of the disease is in the stomach; sudorifics, and diuretics, if the strength will permit, and if nature incline to favour the operation of those medicines.

The patient is to avoid acrid, saline, and particularly acid things; he is to be cupped on the abdomen; and to have his legs washed with a warm decoction of the rust of iron, steel-filings, and sharp vinegar; and the vapour of it also to be applied to the anus. He has added to the farrago of the ancients, human bones, chalybeated water, earth-worms, medicated wine with iron or gold steeped or boiled in it; ashes of a burnt hare; a quince, or pear, excavated and filled with wax, and roasted, &c. He says the hæmorrhoides coming on moderately, relieves in this disease by derivation.

G. Fabricius Hildanus, *de Dysenteria*, says, among the external causes of dysenteries, a corrupt air is the most dangerous. That the dysentery which raged at *Berne*, from 1601 to nearly the end of 1603, had this universal cause; and that there is no cause more universal, of health and sickness, than good or bad air. That the air had been, before this dysentery appeared, loaded with vapours and exhalations, preceded by two earthquakes.

In 1592, during the dog-days, at a meeting of the great senate of *Berne*, their wine was put into copper vessels, and suspended in a cold well, in order to cool it. In a few days after they had drunk it, the legates themselves, and almost all the people who accompanied them, were attacked, one after another, in the same manner, with a vehement pain in the belly, fever, and dysentery; of which many died. One of them, whose name was *Willading*, and who escaped with great danger, whenever he drank his wine cooled afterwards in hot weather, was always attacked with pain and severe gripings, and sometimes with a diarrhœa. So sagacious is nature, says Hildanus, that she always abhors whatever has been injurious to her. He says, that he himself, having been hurt by eating some poisonous mushrooms in his youth, could never use those that were good afterwards, without nausea, eructations, and pains in the stomach.

He says, he had a severe dysentery himself, in May, 1605, caused by eating with a sallad, some vinegar, that had been kept in a vessel lined with lead.

After the patient has been purged, vomits are strongly recommended, composed of rain-water two pints, honey three ounces, boiled and despumated until one third is consumed: of this hydromel the patient is to take a cupful warm, with two ounces of oil of olives, or of fresh butter: and an hour and half afterwards, to provoke a vomiting, by introducing a feather, or the fingers, anointed with oil or butter, into the throat. If a stronger vomit be necessary, radish-root, beat up with the hydromel and strained, may be given. Half an ounce, or less, according to the age of the patient, of radish-seed powdered, with the hydromel and oil, or butter, is an excellent vomit. Some give a dram of asarabaca-root as a vomit.

He advises bleeding, in small quantities; or ligatures to the arms and legs; or cupping, to derive and turn the humours from the intestines;

tines;—also covering the patient in bed to cause a sweat, but not in the beginning of the disease; there diuretics are to be used. His purge was rhubarb, myrobalans, and michoacan. He commends nutmeg highly. He says fat broths, or butter, or oil of olives, or oil of almonds, is proper to be taken, to alleviate the pains; particularly oil of unripe olives, to the quantity of three or four ounces, in some fresh meat broth, is to be given. He says, *cap.* 7. that fresh butter mitigates the pains, and defends the intestines.

He mentions a case where the patient voided pieces of the substance of the intestines; and also such worms as are found in rotten flesh, which came from him involuntarily; but he recovered. *Cent.* iii. *obs.* 47.

He cautions those in health not to go near the places where dysenterical excrements are, for fear of infection; that the sick should have places by themselves, and that some quicklime, or ashes, should be thrown in such places; for those excrements, he says, produce a pestiferous exhalation, which immediately affect the bowels of those in health, by some occult quality, which he had often observed, and that nobody ought to be surprised at; as those who look on people with ophthalmias are immediately infected; and the sheets in which people with the itch have slept infect others; and an ulcer in the genital parts, first affects those parts by contact; for that particular parts of the body have a certain sympathy, and affinity, by which means a disease readily passes from one to another.

ZACUTUS LUSITANUS, *Praxis Historiarum, lib. ult. no.* 6. advises, to divert the cause of the disease, frictions to the arms with dry cupping, and cupping with scarifications to the loins; and diuretics to cause a derivation by urine. He gives a form of pills composed of toasted rhubarb and astringents, which, he says, have saved many from the jaws of death. He contends for the use of arsenic in glysters, after RHAZES and AVICENNA, where the disease is inveterate. *De Dysenteria, Hist.* 86. *Paraphrasis.*

SENNERTUS, *de Dysenteria, Lib.* iii. *part.* 2. *sect.* 2. *cap.* 7. says, the dysentery may be caused by acrid secretions; yellow bile; by black bile, which is mortal; by sharp phlegm; by malignant, and such humours as have a peculiar and secret quality, by which they affect and ulcerate the bowels. It may also be caused by eating autumnal fruits, particularly if they are unripe; by change of diet, and by food that is soon converted into sharp and corrosive humours; by grapes, must, coloquintida, antimony, vinegar, and water kept in lead-vessels; by occult qualities in the atmosphere; and by that influence of the stars, and the constitution of the air, which generate in our bodies, or communicate some disposition to that end.

That the dysentery is contagious; for, in that of the spring of 1624, which raged so violently after a long series of heat, and uncommonly dry weather, one person was infected by another, and whole families were cut off by it. That the contagion of this disease is communicated by the excrement; which, as in all other contagious diseases, being the excretion peculiar to the disease, is infectious. As in an opthalmia the discharge and effluvia of the diseased eyes will infect people who look at them; and in a consumption, the contagion of the breath from the diseased lungs, is infectious. But in the dysentery, where the mass of blood is contaminated, and fevers are united with it, then not only the excrement of the sick communicates the disease, but their breath also, and the exhalations from their bodies. And that the dysenterical miasma, in whatever mode and manner taken into the body, whether by the scent of the fæces, or by the lungs, œsophagus, or anus, creates a fermentation in the humours, and excites the bowels according to its own nature; conformably to the peculiar essence of all contagions and poisons.

He mentions the various opinions concerning rhubarb, and says, it is a most useful and excellent medicine in the dysentery. It should sometimes be given in substance, and sometimes in infusion, or decoction, or in extract; for that rhubarb has two properties; a subtle property, by which it purges; and a gross property, by which it becomes an astringent. In a watery infusion, decoction, or extract, its purging quality prevails; but in substance, it is more astringent. Therefore the infusion, decoction, or extract, should be given in the beginning of the disease, when purging is intended; and the substance, when it is intended to act as an astringent. When its astringency is to be increased, toasting it will answer the end, by diminishing its purgative quality.

RIVERIUS, *Cent.* 2. *obs.* 84, cured his wife of a dysentery with opium only; and a purge, after the flux had ceased, of infusion of rhubarb and myrobalans, with the addition of some of the powder of rhubarb, and syrup of roses. *Cent.* 3. *obs.* 4, he gave his son sal prunella in a dysentery. *Cent.* 3. *obs.* 9, he cured a patient by giving him a dram of salt of vitriol dissolved in water, which vomited him, and made a revulsion of the humours from the intestines. *Cent.* 4. *obs.* 79, he gave twelve grains of horizontal gold; it purged gently, and cured the patient; he repeated it twice afterwards, every third day. His general remedy was opium only; with purges of infusion of rhubarb, with some of the powder, and syrup of roses, at intervals.

BONTIUS, *de Dysenteria, Cap.* 3. *lib.* ii. & iii. *obs.* 4. *Hist. Nat. et Med.* says, the dysentery causes greater devastation in the Indies, than any other malady whatever. He says, it is partly caused by the hot and moist air; and as a proof of the moisture of the air at *Java*, and of the error that generally prevails among people who suppose, from the proximity to the equator, it must be hot and dry, he says, that steel, iron, and brass, sooner contract rust and verdigrease, in the driest season, when not a drop of rain falls there, than in the wettest autumn in Europe. It may also be caused by drinking too great a quantity of arrack; by eating too much fruit, as water-melons, cucumbers, jack-fruit, pine-apples, bananas, &c. without rice, bread, and salt; as in France and Spain, people who eat too many grapes, without bread, are immediately seized with a diarrhœa, or dysentery.

He asserts, that diseases in the East-Indies may be epidemical and pestilential; and urges, as a positive proof of it, that the dysentery that raged at *Batavia* in 1628, was contagious, when that town was besieged by the people of the island. He says, at that time the dead bodies being thrown into the river, corrupted the waters; and the air was likewise tainted by putrified carcases of men and beasts, that died of famine and wounds, which lay unburied in the fields. Besides, the water was vitiated by some thousands of baskets of serpentaria root, which the Indians steeped in the river, in order to divest it of its poisonous quality, and that glutinous substance, which, if we put the water wherein the root has been infused, into a glass for a few hours, we may observe fall to the bottom, like the white of an egg. They ate the root toasted instead of rice, of which there was a scarcity in the camp. This will not appear strange to those who know that, in the West-Indies, the root *Casava* * is used instead of bread, although the expressed juice of the root is immediate poison. To this noxious diet, may be added the drinking brackish water, as the winds blowing from the sea at stated periods, forced the sea-water into the river, and made it salt. Moreover, the river swarmed with worms, that were generated in the bodies of the dead; the season being the hottest and most rainy in the whole year, from September to February, when the weather is constantly wet, and the sun vertical.

As to the cure, he says, the common remedy was an infusion of rhubarb in a decoction of tamarinds, to evacuate and attemperate the acrid fluids, as it is said;—but, he says, this remedy was not only hurtful, but sometimes destructive, as it caused much irritation and pain, when the acrid bile was extremely abundant; and that the great weakness in a dysentery rather requires restoratives than purging; therefore what he found by experience to be the most successful practice, was a common drink made of a decoction of rice, with endive and succory: adding likewise the hartstongue, or phyllitis, which grows plentifully there, about the rivers.

---

* This is the *Mandihoca* of Piso, and is described in the next article.

But if the pain should not admit of so slow a regimen, recourse must be had to the extract of saffron; which he affirms to be a medicine equal in efficacy in the flux, to any that has ever been discovered; and that it is a most perfect antidote against this disease, even when of a malignant kind.

The fruits of the country are recommended; such as mangoes, which are useful from their acidity and astringency; also syrup of the juice of fresh pomegranates; and the flowers of them preserved, to strengthen the bowels.

Piso, *de Dysenteria, lib.* ii. *cap.* 12. *Hist. Nat. et Med.* says, at the *Brazils* the dysentery arises from perspiration being stopped by the cold night-winds; and from the immoderate use of fruit, and unwholesome drinks, assisted by the heat and moisture of the air: but that it never appears like an epidemical, nor contagious disease. As to the cure, he says, rhubarb, and the mildest laxatives are sometimes too irritating, and that the best medicine to procure evacuations with, is ipecacuanha; of which, and its use, he speaks in the following manner:

"Dehinc ad radicem ipecacuanhæ tanquam ad sacram anchoram confugiendum, qua nullum præstantius aut tutius, cum in hoc, tum in plerisque aliis, cum, vel sine sanguine, fluxibus compescendis, natura excogitavit remedium. Quippe præterquam quod tuto et efficaciter tenaciſſimos quosque humores per ipsam alvum, sæpissime autem per vomitum ejiciat, et a parte affecta derivet, vim quoque astrictivam post se relinquit. Illud vero hoc modo perficitur: drachmæ duæ radicis ipecacuanhæ in ℥iv. liquoris appropriati coctæ, vel per noctem maceratæ, cujus infusum cum vel sine oxymellis ℥i exhebitur. Postridie semel atque iterum pro re nata, secunda imo tertia ejus decoctio repetenda; tam quod ægri debiliores eam facilius ferant, quam quod astrictioria ejus vis tunc magis efficax appareat." *Lib.* ii. *cap.* 9.

He strongly recommends gruel made of *Tipioca* *; and also emulsions of it, both by way of drink and glysters. To take three or four drops of balsam capivi in the yolk of an egg; and the same quantity in the white of an egg, to be applied to the anus, externally, on some cotton, or to be used in a glyster. Unripe *Bananas*, half roasted, may be taken as an astringent food, or the fruit cut small, and dried in the sun, and made into a mass, adding a little vinegar, which boiled, is to be used instead of bread. Conserve, and rob of pomegranates, and other astringent and cooling simples of the country; as the *Araça Guajába, Mureçi, Murucujá, Inipápa, Acajú.*

---

* This is prepared from the root of the *Mandihoca* of Piso, which is the *Magnoc*, or *Manihoc* of the French, and the *Cassava* or *Cassada* of our West-Indies. This preparation of the Cassada root is called *Tapioca*. in England. Cassada is the *Iatropha* foliis palmatis, lobis lanceolatis integerrimis lævibus, Linnæi, Spec. Plant, p. 1429. ed. 1763. *Iatropha* foliis palmatis pentadactylibus, radice cônico-oblongâ carne sublacteâ, Browne, p. 349. *Ricinus* minor, viticis obtuso folio, caule verrucoso, flore pentapetalo albido, Sloane, Cat. Plant. p. 41.

F. DELEBOE SYLVIUS, *Praxeos Medicæ Appendix. Tract.* 10, *sect.* 246. & *seq.* says, in a dysentery the intestines are corroded, and ulcerated from an acid humour; and therefore those err, *toto cœlo,* who attribute the cause of a dysentery to a bile alone, in whatever manner corrupted, and rendered acrid: for after the lixivial salt of the bile is rendered acrid, it excites a gangrene, as well in the bowels as elsewhere, but never an ulcer. It is therefore an ulcer of an acid, not of a lixivial effect. And unless an acid, and also an acrid humour, are joined to the bile, a dysentery is never produced, which is only caused by a humour strongly acid, and sharp, being brought there.

The dysentery of 1669, at *Leyden,* was owing to æruginous bile, corrupted by an acid acrimony.

The principal medicines are toasted rhubarb, diascordium, theriaca, absorbents, &c.

He says, if a tenesmus remains *in ano,* balsam of sulphur prepared with oil of turpentine, amber, or anniseed, applied to the part by itself, or mixed with other things, is an excellent remedy.

WILLIS, *Pharmac. Rational. part.* 1. *sect.* 3. *cap.* 3. says, although the word dysentery, in the common acceptation of it, signifies a bloody flux of the belly, as a diarrhœa doth that of the humours; yet he applies that name to the disease, even where it is not at all bloody. He says he has often and long since observed, that there are two different species of flux, which almost every year appear in London about autumn, and called, in our language, *the griping of the guts;* in one of which the stools are watery, and as it were clear, with a sudden decay of strength; in the other they are bloody, but the strength remains tolerable. But while these fluxes prevail, the stools are rarely bilious or mucous.

He says, about the autumnal equinox of the year 1670, which had been preceded by an exceedingly hot and dry summer, many people were seized with a very severe and dangerous *dysenteria incruenta.* The disease came on suddenly, and often without any manifest cause, and reduced the patients by violent vomitings, frequent stools, and those watery ones, in a little time to great weakness, horrid faintings, and prostration of strength. Many who were well on the preceding day, were within twelve hours so reduced, by the tyranny of the disease, that they seemed ready to expire, with their pulse weak and slender, a cold sweat, and short, laborious respiration: and many who had not proper remedies and assistance, died suddenly of it. This disease raged for a month, began to decrease about the middle of October, and before the first day of November almost intirely disappeared.

In the cure of this dysentery, he says, no evacuation did good: nay bleeding, purging, or vomiting, always did hurt. Only cordials, and those of the hottest nature, and such as abounded with spirit, and sulphur, or a volatile salt, proved useful; insomuch that brandy burnt a little with sugar, was a popular, and as it were an epidemical remedy: though in the bloody dysentery, being indiscriminately used, it was often found to be injurious. Hot waters and spirits, treacle and mithridate, were the only kind of cordials found to be useful.

He says, this dysentery was not contagious, and though it raged so severely in London, it did not extend more than three miles distance from that city.

He says, the autumn of 1670 was succeeded by the coldest winter and hottest summer ever known, and that in the following autumn, 1671, there raged an epidemical fever, of the intermittent type, almost all over England. At the same time there was a severe bloody flux, *dysenteria cruenta,* that raged in London, by which many were carried off suddenly.

From the first attack of this disease, the patient generally had a pain in the belly, and gripings, voiding abundance of blood, and often, with continual watchings, fever, and intolerable thirst, yet the strength was not much impaired; and though the patient had sometimes almost twenty stools a day for a week, he was able to rise from his bed. Some voided caruncles, and pieces of the villous tunic of the intestines.

The bloody stools appeared terrible, yet the disease continued for weeks, and sometimes blood was voided in great quantities every day for months, and at last, when the disease was in its worst state, the symptoms that preceded death, were watchfulness, roughness of the tongue and mouth, with thirst; and sometimes mortal aphthæ appeared. Where the flux had been suddenly stopped, these symptoms sooner appeared, and denoted great danger.

Though this disease was epidemic, it was not equally malignant with all; in some it was milder, in others it appeared more violent.

The method of cure in the dysentery, WILLIS says, is first to stop the flux gradually, or to moderate it. But that the indications are not to be proceeded on severally, and successively, but to be taken all together, and set upon at once. Therefore the remedies should consist of alexipharmics, styptics, diaphoretics, and opiates. His chief medicines were Venice treacle, frequent doses of laudanum, purges of infusion of rhubarb and mirobalans, &c.

He says the dysentery that commonly appears in London, is not usually malignant; and although the stools are violent and bloody, and the disease generally of long duration, yet it is not very contagious, nor often mortal. Sometimes indeed it is virulent, and, as it were pestilential, destroys many, and spreads its miasma widely, by contagion.

SYDENHAM, *de Dysenteria partis anni* 1669, *atque integrum* 1670, 71, & 72, says, the dysentery generally comes as the present one did, in the beginning of autumn, and goes off for a time upon the approach of winter; but when a series of years are too much disposed to produce it epidemically, it may seize a few at any other time, and many at the beginning of the spring, or perhaps earlier, if warm weather immediately succeed a severe frost, terminated by a sudden thaw.

In describing the disease, he mentions aphthæ in the mouth as a mortal symptom. He says, when the disease proves lasting, the intestines at length seem to be affected successively downwards, until it is driven to the rectum, and ends in a tenesmus.

After having attentively considered the various symptoms attending a dysentery, he says, he discovered it to be "*a Fever of its own kind, turned inwards upon the Intestines;*" by which means the hot and sharp humours in the blood, are there deposited by the mesaraic arteries, and the mouths of those vessels are forced open by the impulse of the blood, and the flux of the humours.

He says, the curative indications are, to make an immediate revulsion of the sharp humours by bleeding; and afterwards to cool the remainder, and evacuate them by purgatives. He says, it is possible that there may be as many species of dysentery, as there are of small-pox; and confesses he does not know what similitude there was between the dysentery he treats of, and the endemical dysentery of Ireland.

He began by bleeding, gave an opiate the same evening, and the next morning his usual purging potion.

℞ Tamarinds, half an ounce; leaves of sena, two drams; rhubarb, one dram and a half: boil them together in a sufficient quantity of water to have three ounces of strained liquor, in which dissolve manna, an ounce, and add syrup of roses, an ounce, for a purging potion.

He gave an opiate early in the afternoon on the day of the purge. He repeated the purge twice, or more, every other day, with the opiate, on the intermediate days; the opiate he used was sixteen or eighteen drops of his own liquid laudanum *, in some cordial water. After

---

* *Laudanum Liquidum* SYDENHAMI. ℞ Vini Hispanici ℔i opij ℥i croci ℥i pulv. cinnamomi et caryophillorum āā ʒi infundantur simul in B. M. per duos vel tres dies, donec liquor debitam consistentiam adquirat.—Colatum servetur pro usu.

bleeding,

bed. If a relapse happened, either from rising too soon, or leaving off the milk diet too soon, the same process was repeated.

This mode, he observes, did not answer after the autumn of the year 1669, nor even in the cold weather of the same year; and in the following years it was of no use at all.

He says, that Doctor *Butler* used this diluting process with the utmost success at *Morocco* and *Tangiers*; and suggests, that it is reasonable this method should be attended with greater success in hot climates than in England.

When the disease degenerates into a tenesmus, he says, it must be borne until the strength can be recovered by a restorative diet, and the free use of some grateful cordial liquor: then the tenesmus will go off spontaneously, in the same degree as the strength returns.

He says, he cured a person of a chronical dysentery by repeated bleedings only; and observed, that her blood was like that of pleuritic persons.

He says, also, that laudanum alone will cure slight dysenteries, without any evacuations, at a time when the constitution has less tendency to the disease, than it had in those years when it raged so epidemically.

BARBETTE, *Cap.* 5. *de Dysenteria*, says, the disease is caused by too great an acrimony of the bile, and too much acidity of the pancreatic juice. Among the curative indications, he says, the dysentery, "*qua Dysenteria*," never indicates bleeding. The peccant humour is to be corrected, and evacuated, and the parts strengthened. In the cure, three things only are necessary;—purges, alterants, and topical applications. Every thing in the dysentery is to be administered in small quantities, whether drink, food, or medicine. Rhubarb is his principal purge:—with which, and opium and astringents, and anodyne, astringent, turpentine glysters, and applications to the abdomen, he cured his patients.

He says, the widow *Van Asperen*'s son, who was accustomed to drink spirituous liquors, was seized with a dysentery, with violent pain; and often voided to the quantity of two pounds of concreted blood, of a bright arterial colour. On opening his body after death, the small intestines were here and there sphacelated, their tunics eroded, and they were perforated in four places.

ETMULLERUS, *de Content. in Intest. Expuls. Læsa, cap.* 9. says, a benign dysentery is generally without fever and contagion; and that the causes of it are too great a corrosive quality of the pancreatic juice, by itself, or when it is not sufficiently tempered by the bile; autumnal fruits, grapes, must, &c.

A malignant dysentery is generally united with fever, and sometimes a pestilential one; and rages epidemically through a whole region, and spreads itself by contagion.

He supposes it not only contagious from using the same place where dysenteric people have been, but that using the same pipe in giving glysters, that has been before used by dysenteric people, will convey the infection; and refers to the opinion of HELIDÆUS PADOANUS *.

---

* HELIDÆUS PADOANUS was an excellent physician, for the age in which he lived. He died at *Bologna*, in 1576. His observation here referred to is,—" eo malo sæpius videas corripi,

He says, the sudorific tincture of bezoar was used with great success in this disease; and that one who had a malignant dysentery took several times twenty drops, and upwards, of the balsam of sulphur, and cured himself by repeated sweating.

He commends the virtues of the human skull bone, as a specific in this disease; and says our great BOYLE informed him, that a dram of the raspings of it, in a powder, was to be given. He says, also, that the *usnea*, or moss of the human skull, given in doses from six to twelve grains, is said to have wonderful effects: particularly if it be from the skull of one who has been hanged, or broken on the wheel, or any other way received a sudden death. He says the sugar of lead, to ten grains, is a singular remedy, and ought to be much recommended: and that the *tinctura antiphthisica* is an elegant medicine for all internal ulcerations whatever.

His general medicines were astringents and opiates; and, he says, purging medicines and glysters are rarely to be used.

---

corripi, quibus clyster infunditur, instrumento non bene abluto, quo antea dysentericus usus fuit; in sedili etiam seu loco excretionis contagia vestigii aliquando remanet." *Processus, Curationes & Consilia.* P. 104. edit. WITTICHII, 1607.

HOFFMAN says, the intentions of cure are, first, that the peccant, acrid, and caustic matter, of whatsoever kind, be corrected and carried through its proper emunctories; secondly, that the violent gripes and severe spasms of the intestines be soothed and alleviated; and thirdly, that the intestines themselves, when ulcerated or weakened, should be relieved by proper and well-chosen remedies.

He recommends mild cathartics composed of whey, tamarinds, and rhubarb: but condemns the use of neutral salts; and such sweet purges, as prunes, sena, manna, laxative syrups; and all acrid purges, as jalap, scammony, colloquintida; and wonders at BOYLE's recommending *mercurius dulcis* in a dysentery. He says, he was told by a physician who attended a camp, in curing a dysentery, which raged there, upon the first suspicion of contagion, and even when signs appeared pretty evidently, that an alexipharmic, prepared of calcined and philosophically prepared hartshorn, of diaphoretic antimony, of the volatile salt of hartshorn, and saffron, of each ten grains, exhibited with a warm vehicle, produced excellent effects, by disposing the body to sweat: and after a repetition of four doses, it checked the violence of the distemper.

But should a great quantity of sordes be lodged in the *primæ viæ*, he says, that a remedy of this kind may be much more safely used after the previous exhibition of a proper evacuant. It is a very common and fatal mistake of physicians, when, in order to cure a violent dysentery, they make an immediate use of alexipharmic and theriacal remedies, such as diascordium, theriaca Andromachi, mithridate, pulvis panonicus ruber, alexipharmic essences, and bezoardic tinctures; for he had frequently observed that the symptoms of an epidemical dysentery had been exasperated by too large an exhibition of such hot and dry remedies; and that fevers, thirst, and great heat within, have been occasioned by the use of them.

BAGLIVI, *Prax. Med. lib.* i. *cap.* 9. says, most of those who die of a dysentery are killed by a sphacelus of the intestines, which appears at least three days before their death; for then the extreme parts begin to grow cold, the pulse low and unequal, the pain and thirst not so violent; and some are delirious a few hours before they die.

If a dysenteric person be taken with a vomiting, it is a dangerous case. The hiccup is a mortal symptom, and so is the jaundice. A difficulty of swallowing is the forerunner of death.

In a mortal dysentery, the stomach is affected as well as the intestines.

If a dysenteric person be seized with an inflammation of the tongue and a difficulty of swallowing, there are no hopes left.

In the hæmorrhoides, the blood comes before the excrements,—in the dysentery with, or after them.

If a dysenteric person take opiates, and the day after appear of another colour in his eyes, he will scarcely recover; but if the colour of his eyes continue unaltered, it is a sign he may recover. VALSCHMID.

Chewing of cinnamon, and swallowing the spittle, has cured some people.

In the cure of the dysentery, the medicines ought to be few and simple; it is often cured with nothing but whey given inwardly, and in glysters. Several authors take this to be an *arcanum*. Sometimes the disease is inflamed by too many glysters, injuring the ulcerated fibres of the intestines; therefore they ought to be given but seldom, and in a small quantity.

Sweating coming upon a looseness, stops it.

He says, the root of ipecacuanha is a specific, and a remedy almost infallible in dysenteric fluxes, and other hæmorrhages, colliquations of the humours, &c. Of this, he says, he was informed by Doctor *Sherrard* in England, and had the same confirmed by Doctor *Mangetus* of Switzerland.

DEGNER, in his *Historia Medica de Dysenteria Bilioso-contagiosa*, which raged at *Nimeguen* in the autumn of 1736, says, the *dysentery* made its appearance in July; but was preceded by a bilious *diarrhœa*, accompanied with vomitings and slight pains in the belly, which began in the month of April, and continued increasing until the setting in of the bloody flux. The dysentery increased in violence, until the middle of September, when it was at its ακμη, and had by that time spread itself unto the neighbouring villages, though confined until the end of August within the walls of the town. He says, the first person attacked was an officer of horse, a young robust man; to whom he was called on the seventeenth of July, and who died on the twenty-fifth. He says, the calamity began from this young man, and spread itself from the house in *Paul's*-street, where he was, to others in the same street, ; and thence over the whole town.

It began to decline towards the end of October, and towards the end of December intirely disappeared in the town.

It is to be remarked, that the French people in the town were almost entirely free from its attack; two only, and those old men, were seized with it: and the Jews entirely escaped. He says, this confirms the opinion, that one nation may be more obnoxious to contagious diseases than another.

In the cure, he began with a vomit of ipecacuanha powder, and repeated it, if necessary, to the second or third time. After the vomit of ipecacuanha, he purged with the watery tincture of rhubarb, or *Rolfinck's* tincture, made in the following manner:—take of *rhubarb half an ounce, of salt of tartar one dram, succory water, or any distilled water, such as mint water, five or six ounces.* Of this mixture he gave half, or a whole spoonful, every four or six hours, to adults *.

On this medicine, which he calls a *divine remedy* †, from the beginning he chiefly depended, which he repeated and continued, while evacuations were necessary. Afterwards he gave an ounce or two of a decoction of *simaruba,* two drams in half a pint, every three or four hours, according to circumstances, until the patient was cured. The effects of this medicine, he says, were more remarkable when the discharges were bloody, than when they were bilious. Sometimes he added a little syrup of white, or red poppies, to it. When more roborant and astringent medicines were required, he gave cascarilla bark, and terra Japonica. To assuage the pains and lubricate the bowels, he gave *salab*, and preferred it to any other mucilaginous or gummous medicine.

---

* "Sed ego plura addo, atque affirmo rheo inesse omnino aliquam virtutem specificam, non quidem, ut alii volunt, in genere, in sanandis omnibus dysenteriis, et diarrhœis, cum vel sine sanguine, sed speciatim in diarrhœis et dysenteriis aliisque adfectibus biliosis, in quibus suas vires efficaciter exserit." Cap. 3. sect. 32.

† "Divinum potius quam humanum remedium." Cap. 5. sect. 15.

He condemned bleeding in this dysentery, and early opiates, astringents, and neutral salts, such as *tart. vitriolat. arcan. duplic. sal prunellæ, &c.* and all mineral and metallic preparations, drastic purges and sudorifics. Concerning the latter he pronounces the following sentence; "*sudorifera caute adhibenda sunt; sudor enim arte prolectus minime eundem effectum salutarem habet, ac spontaneus, quo natura materiam humoribus insinuatam aptè e corpore eliminare novit. Ars vero turbulenter sæpius cocta et cruda simul et semel ad externa pellit, majoresque in corpore turbas excitat, quid quod, ob inquietudinem ægrorum et sedium numerum, vix debita in lecto continentia, ad tales sudores artificiales observari, nec materia peccans per sudorem satis eliminari possit.*" Cap. 5. sect. 23.

CLEGHORN, in the dysentery at *Minorca*, used ipecacuanha and *vitrum antimonii ceratum*, as evacuants. He says, of the latter he used to give from five to ten grains, early in the morning; of the former he directed ten, or fifteen grains, in powder, to be divided into three doses, and to be taken in the forenoon, at the interval of two hours, or an hour and half between each dose. The most common effect of both, was to procure a thorough evacuation upwards and downwards, during the day, and they often threw the patient into a sweat the ensuing night.

But he says, he preferred the ipecacuanha, as being certain in its operation; whereas the other, sometimes, did not produce the intended discharge; at other times occasioned greater commotion than was expected. Nevertheless, he says, he must acknowledge, now and then, in desperate bloody fluxes, he had known the antimonial medicine to be successful, after every thing else had been tried to no purpose.

At first he repeated the above-mentioned evacuations every other day, for three or four times; and afterwards at longer intervals, with proper drinks, and a small opiate at night.

But when the dysentery began with horrors, rigors, fever, pain, &c. he confided principally in the antiphlogistic method, with bleeding plentifully, emollient glysters, fomentations, and diluting drinks; avoiding opium as much as the intolerable torture of the distemper would permit.

When the fever was assuaged, he endeavoured to procure a sufficient discharge by stool, with mild purgatives, such as whey, weak broth, sweet oil, solution of manna, cream of tartar, &c. proceeding, by degrees, to the most active, till the end proposed was obtained.

When other means failed, he gave six or seven grains of calomel, with a grain of opium at night, after the use of the semicupium, and a purging apozem made of sena, manna, and sal catharticus, the next day.

In chronical dysenteries he gave an opiate twice a day while the disease continued.

HUXHAM, *de Aëre et Morbis Epidemicis,* says, in the dysentery in April, 1743, round worms were generally voided in the stools, even by adults and old people; that worms had been a more common complaint for many months before, than he ever remembered. He supposes this might have arisen in consequence of the great quantity of fruit with which the preceding summer and autumn abounded.

The disease was violent, and continued from the beginning of April to the end of May; particularly in the town and neighbourhood of *Plimton*, in Devonshire. He supposes it might have been an epidemic fever, translated to the intestines, as an epidemic dysentery is not commonly a disease of the spring.

He often found good effects from calomel, when the patient had worms: but generally began the cure with bleeding, and a vomit of ipecacuanha. He says, the intestines are generally inflamed in some degree or other, in this disease.

He says rhubarb (toasted if East-Indian) is the best purgative in the dysentery, given often, with a little nutmeg, or cinnamon. He says, there is no disorder in which sweetening, diluting drinks, are more necessary than in the dysentery; that water alone has often done great service; but that in the beginning of the disease it should be given warm: and that, after the bowels had been cleansed, he has frequently cured the disease with water, and a small quantity of opium.

HILLARY, *on the Diseases of Barbadoes*, says, the dysentery may be truly said to be endemial in hot climates, and that it appears in *Barbadoes*, more or less, every year. He supposes it to be infectious. In the cure he began with bleeding, then gave a vomit of ipecacuanha, and after its operation an anodyne, with toasted rhubarb. Bleeding is to be repeated, if necessary: then small doses of ipecacuanha with theriaca, twice a day, and an anodyne after it has vomited the patient, once or twice, for three or four days.

But if the fever and inflammation be abated, or taken off, and yet bloody, or brine-like stools continue and are frequent, giving a dose or two, and sometimes a third dose, of *stibium ceratum*, at proper distances after each other, and a suitable opiate a little time after the last, has been of great service. But he observes, "that this medicine how much soever it may be recommended and extolled by some persons, though it may be a good medicine when properly timed, yet as it is frequent y and promiscuously given at all times of this disease, and in all circumstances, by some persons, it cannot succeed; for if the fever and inflammation are not first taken off, or considerably abated, it seldom or never answers their expectation. But these being taken off, or greatly abated, it sometimes proves to be a good medicine; though I think I have seen the ipecacuanha, in small doses, answer much better *."

For the pain and soreness of the intestines, following the practice of TOWNE, he recommends balsam of Locatellus, anodynes and balsamics; and glysters made of fat broth, milk, balsam of Locatellus, wax, spermaceti, elect. escord. theriac. Androm. tinct. thebaic. When a tenesmus is kept up by indurated fæces, he advises purges to be given of manna and rhubarb, with a little sal polychrest and oil; and, if necessary, glysters of warm water, honey, oil, and a small quantity of sope.

TISSOT, in his *Avis au Peuple sur la Santé*, says the dysentery is commonly epidemic; beginning sometimes at the end of July, but oftener in August, and ceases when the frost sets in.

He says, the great remedy is an emetic; sometimes a vomit of emetic tartar cures the disease, and always shortens it. A vomit of ipecacuanha is not less efficacious, and has been esteemed for a great while as a certain specific; but it is not that, though it is very useful. This remedy may be taken in the manner in which the Brazilians use it*. They infuse two drams of ipecacuanha in four ounces of hot water for a night, strain the liquor, and take it in the morning fasting. They repeat for two days afterwards the same infusion, made from the same root of which the first was made. The vomiting is moderate the first day; it is very gentle the second, and more so on the third. The drink to be a ptisan, made of a quart of barley-water, with two drams of cream of tartar dissolved in it. The day after the vomit, the patient is to take a dram of rhubarb in two doses; and the following day nothing but the ptisan. On the fourth day, the rhubarb is to be repeated. This method generally subdues the force of the disease, but the patient must be kept for some time to a careful regimen.

---

* Page 214.

Sometimes the dysentery begins with an inflammatory fever, the pulse hard, full, and violent pain in the head and loins, and the belly tense. In this case the patient should be bled, and every day have three or four glysters made of barley-water and mallow-flowers, or milk and water; and to drink plentifully of the ptisan.

---

* See p. 341.

Vomits are not always necessary, and if the inflammatory symptoms have been considerable, the patient should be purged with manna and Sedlitz salts, and not to use rhubarb but towards the end of the disease. He says, he cured many patients with only a cup of warm water, every quarter of an hour.

When the dysentery is united with a putrid fever, after the vomit, the patient should be purged with mana, tamarinds, and a small quantity of nitre; or with tamarinds, and Sedlitz salts, and dram doses of cream of tartar, before the rhubarb is given. Tamarind drink is also recommended, with dram doses of cream of tartar. When a relapse happens after several days, it is remedied by careful regimen, and a dram dose of rhubarb.

When the dysentery is united with an intermittent fever, the dysentery is to be first cured; then the fever. But if the fever be violent, bark must be given at the same time.

He says, the prejudice against fruits in the dysentery is erroneous, and pernicious: for though bad and unripe fruits may cause colics, diarrhœas, constipations of the bowels, nervous complaints, and diseases of the skin, they never are the cause of an epidemic dysentery. But that ripe fruits of every sort, particularly summer fruits, are a preservative against this disease.

He says, he knew nine people out of eleven in a family cured by eating fruit; but that the grandmother and a favourite child, who did not eat fruit, but took burnt wine, oil, and spices, died:—

That in the neighbourhood of *Berne*, in 1750, when the dysentery raged very much, ten out of eleven people in one house escaped it by eating a great quantity of plums. The coachman would not eat any, and was attacked in a very terrible manner:—

That a Swiss regiment of soldiers in a garrison in the South of France had the dysentery among them; the officers purchased the produce of several acres of a vineyard, and gave the soldiers the grapes, which cured all those that were ill, and prevented any of the others from being attacked:—

That a minister who ate three pounds of red currants in a morning, was cured of a dysentery in two days.

If the corruption of humours, which creates malignant fevers, be united with the causes which produce a dysentery, the dysentery resulting therefrom will be malignant; in which ipecacuanha is the principal remedy; first, as a vomit, and after a purge of rhubarb, in small doses, with chicken or veal broth, and a little Rhenish, or Vin de Grave; and it is of the greatest importance to give it in the beginning, before all the intestinal humours are infected.

If there be a disease truly contagious, it is this, says TISSOT. I have seen, says he, within these few months, near the town, a terrible example of its infection. A young man arrived in a bad habit of body, from Holland, where he had been a soldier; and after a few weeks was attacked with a severe dysentery, truly malignant, which, in a few hours, destroyed all his strength. He refused any assistance, and during five days that the disease lasted, he went to stool in the barn, the kitchen, the garden, the rooms, and lay all night on the grass, covered with the dew, by which conduct he infected six other persons that composed the family; four of them were slightly attacked, but a man of sixty years of age, and a boy of ten, perished. The boy took nothing, and died within sixty hours: the father took some medicines in the beginning, and died in fourteen days. There was no dysentery reigning in the neighbourhood at this period; the water used in the house was good; and upon the most attentive examination, he says, he could find no other cause for this infection, than the disease of the first person who was attacked.

AKENSIDE *(de Dysenteria Commentarius)* says, the dysentery ought rarely to be classed among acute diseases, or to be accompanied with any fever*. A doctrine, he says, different from that which the chief modern physicians have laid down. That ulcers are the effect, and not the cause of the disease. That the dysentery is *a Rheumatism of the Intestines;* and like the rheumatism, or other articular diseases, sometimes contains a kind of fever within itself, or at least is attended with one, but that it is frequently unattended with any fever, and much more so than the rheumatism. That the dysentery [illegible] London, in 1760, 1761, and 1762, continued through the winter no less troublesome than in autumn; a circumstance, which, in his opinion, shews its close connexion with the rheumatism. That the disease seizes on the smaller intestines; then gradually descends to the rectum, according to the opinion of SYDENHAM. That it sometimes ceases during menstrual purgation, and returns when that period is over. That the imprudent use of opiates hath, by stopping a flux, brought on a dropsy. That it frequently happens, when people are freed from a dysentery, they are seized with a pain in the shoulder, or in the side; sometimes in the breast, arms, legs, or the integuments of the cranium. This pain is preceded by no rigor, nor signs of fever, for the disease is, plainly, reduced to a chronical rheumatism. That the dysentery and rheumatism, made frequent transitions from one to the other.

---

* "—— eam perraro in morbis acutis reponi debere, aut febre ulla comitatam esse." P. 4.

He contends, that the matter and cause of both the dysentery and rheumatism, are the same.

In the cure, he advises bleeding once, where there is great heat, shivering, and quick pulse;

and though there should be no fever, if the patient be of a plethoric and full habit of body; for this prevents any fever, and the rheumatism; which is so frequently subsequent to the dysentery. It is also to be performed if the spasms and gripings be severe; and in short, it ought to be the first step, unless some manifest symptoms dissuade therefrom; such as a lax habit of body, inclining to a dropsy, great debility, horror, cold sweat, intermittent pulse, and very fœtid stools.

After bleeding, which is not to be repeated, a vomit of ipecacuanha is to be given, unless the patient be too weak; and an hour or two after its operation is ended, he advises, as the only medicine necessary to the cure, "one grain of ipecacuanha, in a draught, composed of half an ounce of simple mint water, and two drams of spirituous mint water mixed together; or two ounces of simple alexiterial water, and half a dram of the cordial confection," every six hours. This was his practice in 1758. In 1759, he gave "two grains of the ipecacuanha:" but he found this dose created too great a sickness, and sometimes vomiting, and then he returned to the "one grain doses," so as to create a nausea of the stomach. In this manner, for four years, he says, he continued to give his patients small doses of ipecacuanha, and found by experience, that in all kinds of dysenteries, whether acute or chronical; whether the stools were streaked with blood, or consisted only of mucus; in every age, sex, and constitution, and in all seasons, that the medicine produced its salutary effects.

He supposes the ipecacuanha in small doses does not operate by sweat, but, by rendering the belly soluble, it expels the humours that give rise to the disease; and, by its antispasmodic quality, relaxes the coats of the intestines, and so eases the gripings.

If after the patient is relieved from the dysentery, he should be attacked with the rheumatism in the shoulders, sides, integuments of the head, arms, or legs,—antispasmodic remedies, and such as increase perspiration, are to be used; such as castor, musk, and valerian; or "the powder of ipecacuanha and Thebaic extract of each two grains; nitre and vitriolized tartar, of each eight grains;" this powder to be taken, and to drink plentifully of the decoction of barley, guaiacum, or liquorice; and to be repeated in six or seven hours, if it should not produce a sweat; covering the patient well with bed-clothes, and continuing the operation for ten or twelve hours. If the patient refuse this method, or be too weak for it, blisters are to be applied to the part, wherever the pain attacks.

Brocklesby, in his *Medical Observations on Military Diseases from* 1758 *to* 1763, says, "out of eight hundred men and women who were ill of a bilious fever and flux, upon the return of the troops to the Isle of Wight, after an expedition and descents upon the coasts of France, in the year 1758," he had a sufficient number of instances, as well as in subsequent campaigns, to prove "some inconveniences from the astringent powers of rhubarb, and by too early checking the bilious evacuations. For many, who were treated in the usual way, with rhubarb, joined with an opiate, immediately suffered delirious ramblings, or an increase of them, if they had any tendency to them before; they complained also of a tightness across the chest, which called for immediate bleeding, though sometimes the patient's strength was already low, and much worn out."

For which reasons he used as a purge, a mixture made by "*boiling two ounces of sour tamarinds in three pints of barley-water to a quart: adding two ounces of manna, and an ounce and half of tincture of sena, with half an ounce or six drams of Glauber's salt.*" A sufficient quantity of this was given, diluting with weak mutton-broth, and an opiate at night.

The astringent he used, after the fever was gone, in the advanced stage of the disease, was made by boiling "*fine Engliſh oak-bark, pomegranate rind, and tormentil root, of each an ounce, in ten pints of spring water, till it was reduced to a gallon; adding, towards the end, two ounces of bruised cinnamon, so as to boil half an hour; when the decoction grew cold, about a gallon was strained off, and four ounces of strong cinnamon water were added, besides two ounces of gum Arabic, and a little sugar.*" About the quantity of four ounces was ordered three or four times a day. This medicine was sometimes assisted by a large dose of an opiate, and more powerful astringents, as the following electuary "*Take powder of red rose leaves, and of newly boiled mutton kidney suet, of each four ounces, a dram of Locatellus's balsam, or about two scruples of balsam capivi: beat them up together into an electuary.*" The quantity of a large nutmeg of this, was prescribed three or four times a day, with a draught of the above drink.

Every night and morning a combination of "*two grains of opium, with three grains of powdered ipecacuanha made into pills,*" proved highly serviceable to many at this time of the disease. *Red Port wine,* diluted with water, with the addition of spices, is also recommended.

"If, after all, the flux still persisted; and if a tenesmus also attended the patient, then lenient purgatives, with salts, manna, and sweet oil, were indispensably necessary again."

PRINGLE, in his *Observations on the Dysentery, ed.* 1768, finds fault with SYDENHAM for including, as dysenteric cases, those diseases, while the dysentery raged in the autumn of 1669, where "several had no stools at all." But PRINGLE has taken only part of the sentence relative to that epidemic; for SYDENHAM adds, "but with respect to the severeness of the gripings, the violence of the fever, sudden loss of strength, and other symptoms, it much exceeded the dysenteries of the following years."

He says also, that there are some substances omitted by SYDENHAM, which are sometimes seen in the stools, viz. "round worms, balls of hardened excrements, and some smaller bodies, of the colour and consistence of suet:" and that among other symptoms, SYDENHAM has omitted the "flatulence;" and that he neither mentions "a procidentia ani, nor a strangury."

In these observations, PRINGLE does not appear to have known, that it was SYDENHAM'S custom, in treating of diseases, invariably, to relate all the symptoms he saw, but no more: a custom, I suspect, "more honoured in the breach than the observance," by many of his successors. Besides, from his well-known accuracy, as well as veracity, it is most probable he omitted nothing; but that none of these circumstances (the first having no relation to the dysentery, and the last undoubtedly often the effect of mismanagement) were seen in the epidemic in question; as neither he, nor WILLIS, mentions them. Here I again dissent from the notion, that *strangury* and *suppression of urine* are genuine pathogomonics of the dysentery.

tery. I am sensible that the dysentery, whenever the stools are copious and liquid, particularly in the *dysenteria incruenta,* there may be but a very small quantity of urine voided: for how should it be otherwise when there is but little secreted, by all the fluids of the body being turned from their natural channels, and running off at the intestines?

This paucity, or deficiency of urine, DEGNER incorrectly calls a *suppression of urine* *; and I perceive it has been by several writers after CÆLIUS AURELIANUS †, mistaken and misnamed in the same manner.

Strangury and *ischuria,* or *suppression of urine,* are absolutely adventitious in the dysentery; and almost unknown where the too early and injudicious administration of opiates, or heating, or acrimonious, or astringent medicines (but particularly opiates), has not previously taken place. This I believe to be the reason, that those we esteem the most accurate medical writers, have never mentioned these as symptoms. DEGNER's patients might have made no urine for several days, for that is natural in the dysentery; but a suppression of urine is not. If suppression of urine occurred, I make no hesitation to charge it to his practice, in the course of the disease, or to some injudicious treatment before he saw the patient; and that a strangury occurring, "cum morbi adsultu," is not a legitimate relative of the dysentery.

---

* *Urina* plerumque plane erat *supressa,* ut intra sex, octo, decem, aut quatuordecim dies vix guttam emitterent.—In aliis vero statim cum morbi adsultu aderat *stranguria* molesta.
DEGNER. *de Dysent.* p. 18.

† Impedimentum urinæ reddendæ.
C. AUREL. *Lib.* iv. *cap.* 9.

PRINGLE says, "SYDENHAM takes no notice of any contagion that attended his epidemic; and that WILLIS expressly says, that the dysentery which he describes, and which was the same as SYDENHAM's, was not infectious. But all that we can thence infer is, that either the distemper, which they saw, was of a milder nature than it usually is when it becomes general, or that this circumstance of infection escaped their notice."

From this very extraordinary remark, one would suppose PRINGLE had never read WILLIS's account of the uncommon severity of that epidemic; and it is evident that SYDENHAM's minuteness in following facts, in which nothing escaped him, had no weight with PRINGLE, bewildered by an hypothesis.

He observes, that SYDENHAM was defective in that part of the history of this disease, which relates to dissections. But PRINGLE should have recollected that SYDENHAM found out a method of treating the dysentery successfully; which deprived him of those fertile opportunities of making experiments on dead bodies, that have so often fallen to the share of many other people. I do not mean by this to say, that he never lost a patient, but to urge the probability of it; as he says, from the method he pursued, "the disease generally yielded to the third purge."

He says, "SYDENHAM, in the history of the epidemic dysentery of his time, takes no notice of the weather; going, I must say, upon a false principle, that the morbid constitution of the season has never any connection with the sensible qualities of the air. But that WILLIS supplies this defect, &c."

How far the whole of this remark is erroneous (admitting PRINGLE's authority, that SYDENHAM went on a false principle,) on the present occasion, whatever might have been SYDENHAM's general doctrine, may be seen by referring to SYDENHAM himself*.

---

* See p. 347.

He says, "that at first sight SYDENHAM seems to have expressed himself justly when he called a flux, *the Fever of the season turned upon the Bowels*. But upon a nearer view, we shall find this notion more acute than solid, since the circumstance of its being contagious shews that the dysentery is essentially different from these fevers."

By this observation it appears, that PRINGLE supposes, dysenteries are always infectious;—or that fevers never are;—or that epidemic dysenteries are infectious, when epidemic fevers are not.

He says, he has known no such progression as SYDENHAM speaks of, "the intestines being successively affected downwards, till at last the disease be driven to the rectum, and ends in a tenesmus."

But as every person else has known this progression, who has had much practice in epidemic dysenteries of long duration, it is remarkable that it should have escaped PRINGLE'S notice.

He says, "DEGNER offers good reasons for believing that the fatal dysentery at Nimeguen, was owing to the infection communicated by one person."

But to me, those which PRINGLE calls "good reasons," are very bad ones; and like all reasons that I have hitherto met with on the same subject; for I consider that the disease which appeared in the beginning of April, as a bilious diarrhœa, and continued through May and June, was aggravated into a dysentery in July, when the heat of summer had increased, and the usual dysenteric season had advanced: for it came in as epidemic dysenteries in Europe generally do, at the end of summer, then raged in autumn, and declined at the setting in of the cold weather.

He says, "in camp the contagion passes from one who is ill, to his companions in the same tent, and thence perhaps to the next. The foul straw becomes infectious, but the great source of infection seems to be the privies. The hospitals likewise spread it, for those who are admitted with the flux, not only give it to the rest of the patients, but to the nurses and other attendants of the sick."

But, says he, "of what nature is this infection? I considered the spreading of the distemper

per (formerly) as owing to putrid exhalations from the humours of those who fall first ill of it; and when this miasma is received into the blood, I conceived it to act upon the whole mass as a ferment, disposing it to putrefaction. But I am now sensible that this hypothesis would be insufficient, without proving at the same time, that when the blood is thus tainted, the vitiated part of it, by a certain law in the animal œconomy, must be thrown upon the intestines for excretion. This notion of a putrid ferment received some confirmation from a case which occurred, of one who was seized, indeed in a slight degree, with a dysentery accompanied with bloody stools, in making experiments upon human blood, which had become putrid by standing some months in a close phial. This case seemed to be more decisive, as it happened at a time when the distemper was not heard of, and to a person in perfect health, who had formerly attended many dysenteric patients without being infected."

"For these reasons, I was inclined to refer the *causa proxima*, or the immediate cause of the disease, to this putrid ferment; but having since perused a curious dissertation published by LINNÆUS[*], in favour of KIRCHER's system of contagion by *animalcula*, I think it reasonable to suspend all hypotheſis till the matter shall be further inquired into."

---

[*] Amœnit. Academ. vol. V. dissert. 82.

He says, in the beginning of his practice in the army, he used *vitrum ceratum antimonii*, which he had formerly observed to be the best medicine in this case, for relieving both the stomach and bowels; yet the roughness of its operation, and the prejudice conceived against the glass of antimony as a medicine, having deterred other physicians of the army, and the regimental surgeons from using it, he also desisted. Instead therefore of this preparation, he gave ipecacuanha with, or without, emetic tartar, so as to excite an operation downwards, which he found most certain when he gave only five grains of ipecacuanha, and repeated it at an hour's distance, twice or thrice, until the next day, if the patient had only been vomited by the ipecacuanha, or sparingly purged with rhubarb and calomel; after the purge an opiate at night, with two or three grains of ipecacuanha. The purge of ipecacuanha, or rhubarb and calomel, to be repeated on the fourth day. The first stage of the disease being past, he pursued the usual track, with opiates, balsamics, and astringents.

I cannot close the present detail, without observing that PRINGLE conceiving "SYDENHAM'S account of the dysentery, to be upon the whole so just, he thought it necessary to make only a few observations to ascertain some points which he, SYDENHAM, has left doubtful; and to add some others, for rendering the history of the disease more complete."

It was therefore in justice to PRINGLE that I have selected those passages, which he thought were the consummation of his undertaking; that he might lose no credit due to an attempt to correct the irreproachable accuracy, and to assist the incomparable genius of SYDENHAM.

BAKER, *de Dysenteria Londinensi*, anno 1762, says, an epidemic dysentery appeared in London towards the end of July 1762. It was preceded by very hot and dry weather. It raged all the autumn, until November.

He remarks that people who ate much summer, or autumnal fruit, were exempt from the disease; or had it mildly.

He generally gave a vomit in the beginning of the disease, and preferred emetic tartar; which, he says, not only cleansed the stomach from a wonderful quantity of yellow and green matter, and relieved the patient, but it excited afterwards a general perspiration over the whole body. He found that ipecacuanha did not cause sufficient stimulus: and disapproves of it, for the very reason for which PISO commends it, as leaving an astringency after its operation;—"vim quoque astrictivam post se relinquit."

He says, he knows no virtue in ipecacuanha for the dysentery, besides its emetic quality, and in that, it is inferior to emetic tartar:—and if, according to FREIND, ipecacuanha be useful in the dysentery, from causing perspiration, it is inferior to emetic tartar even in that.

He says, emetic tartar, after its emetic effects have ceased, operates downwards, and cleanses the intestines: and he supposes the *vitrum antimonii ceratum* owed its reputation as an antidysenteric medicine, to its emetic and purgative operations *.

---

* My opinion of the effects of this medicine, is mentioned in the Second Part of this Treatise, p. 274.

He condemns rhubarb as a purgative, particularly in the beginning of the disease; and advises where such mild aperients as sena, manna, and tamarinds do not relieve, recourse to be had to more active medicines, and before all others to the *sal catharticus amarus.*

He disapproves of rhubarb when mixed with calomel in the dysentery; and much more when nutmeg, cinnamon, and other spices are added to it.

He condemns heating medicines; and in the course of the disease advises such things as almond emulsion, white of eggs, starch, salab, &c.; and in the decline of it, milk with some fresh suet boiled in it, and a little starch.

He says, the Irish common people take melted butter in the dysentery; and that among the English some people have taken a spoonful, or two of it now and then, and have been cured by it.

He says, the dysentery in 1762 was spread by contagion among the common people, from uncleanliness.

He cautions against the premature and improper use of opiates; and instances a case where warm bathing was useful.

In this elegantly-written treatise, the general symptoms of the disease, and the particular epidemic of 1762, are accurately related. It contains also proper discrimination respecting bleeding, recommends the rejection of rhubarb, with many other therapeutical principles, to be regarded in general practice; particularly useful where formidable dysenteries prevail, as in hot climates.

But this learned physician's opinion of the utility of fruit, is less applicable in those climates; and in respect to the "difficultas urinæ *," it is unnecessary to repeat my sentiments; but I will add those of HIPPOCRATES.

He says, in a season when *incruentous* dysenteries prevailed, with great discharges of a bilious, thin, acrid, and watery nature,—*πολλιοσιται και περιρροιαι μετα πονȣ χολωδεες, ὑδατωδεες, ξυσματωδεες, πυωδεες, ϛραγγουριωδεες· ου νεφριτικαι αλλα τουτεοισιν, αλλα αντ᾽ αλλων* †.

---

* Opuscul. Med. p. 38.

† Epidemiorum Lib. i. sect. 2. art. 7, & 8.

MONRO, in his *Account of the Diseases in the Military Hospitals in Germany, from January* 1761, *to March* 1763, says, "it is now generally agreed that this disorder is entirely produced by such causes as make the juices become too putrescent, and turn the flow of humours to the bowels; and in the camp it seemed to arise principally from obstructed perspiration, caused by the men's lying in the field, and doing military duty in all sorts of weather; at the same time being often exposed to the putrid steams of dead horses, of the privies, and of other animal or vegetable substances, after their juices had been highly exalted by the heat of summer."

He does not suppose fruit to be among the causes of this disease, and says, "generally in August and September we have people admitted into St. George's Hospital for the dysentery, who have certainly not catched the disorder from eating fruit."

He says, "most authors who treat of the dysentery, mention the symptom of worms *."

---

* It does not occur to me that many authors have mentioned even the voiding worms in this disease; and surely those who have never meant to consider them as a dysenteric *symptom*:—to which they have no more relation, than to the small-pox, or measles.

In the cure, when the patients were young and strong, and complained of sharp pains of the bowels, attended with a fever, he used the lancet freely; nor was he discouraged from bleeding in the beginning by low quick pulse, which often attended the disorder: and he frequently found the pulse to rise as the blood flowed from the vein.

A vomit of ipecacuanha, sometimes with the addition of emetic tartar, was given after bleeding, which was repeated in the course of the disease if the sickness returned, and the flux were obstinate.

On the following day a purge was given, but as rhubarb, on repeated trials, did not answer, he says, he gave "*sal catharticum amarum, with manna and oil,*" which was repeated every second or third day, with an opiate at night.

He says, "the *vitrum ceratum antimonii* proved often too rough a medicine, and therefore we laid it almost intirely aside."

In the progress of the disease, he says, a spoonful of the *mixtura Fracastorii,* taken after every loose stool, and an anodyne draught at night, had a good effect with some—repeated doses of the *philonium Londinense* answered better with others—and others found more benefit from the *Mindereri* draughts, with *Mithridate*, or the *confectio cardiaca*, or the *theriac* anodyne boluses. The *mixtura Campechensis*, both alone and with *tinctura Thebaica*, checked the purging, and gave relief sometimes; and the addition of some extract of bark, and tincture of cinnamon, seemed to increase its efficacy in two old cases; but it afterwards occasioned such sickness, that its use was discontinued.

In other inveterate dysenteries, he added a small portion of alum to the logwood julep, which, as well as equal parts of diascordium electuary, and electuary of bark, taken to the quantity of a dram twice or thrice a day, was useful in many old fluxes, but sometimes otherwise.

He says, repeated small doses of ipecacuanha did not answer; nor did ipecacuanha mixed with opium, often produce any remarkable change for the better. Purges were given from time to time, during the use of astringent remedies.

POUPPE' DESPORTES, in his *Histoire des Maladies de Saint Domingue*, says, that in the treatment of the dysentery he used emollient glysters of decoction of tripe and plantain, with some buds of the *monbin* (hog plum tree), and of the *grand cousin* *. He purged the patient with tamarinds, mirobalans, and manna in whey; sometimes adding, syrup made of succory and rhubarb. If the disease continued, he had recourse to laudanum, *cashew gum*, and amber, mixed up with syrup. He gave also a ptisan made of *bois marie* (anchovie pear tree), *bois de chandelle* (white candle wood, or rose wood), the tops of *apiaba, ou herbe quarrée* (Indian spikenard), *maïs* parched (Indian corn), of each of these a very small handful, boiled in a quart of water, until a fourth part was consumed. When the patient began to recover, he put him on the use of a pottage made of *gombo* (okra). Sometimes the disease terminated in an abscess in some of the viscera. When it was formed in the convex part of the liver, it was cured by opening it, and with more success there than in France.

---

* Agrimonia of SLOANE, Triumfetta of PLUKENET, Burbark of BROWNE.

POISONNIER DESPERRIERES, *Traité sur les Maladies des Gens de Mer*, says, the dysentery is a common disease among seamen. It comes like a diarrhœa, without pain, or tenesmus that gives any inquietude, for the first few days; and without fever: then succeed pains, bloody and fœtid stools, and fever.

The cause of this disorder, he says, is the same, as of almost all the disorders of seamen: an acrid humour following a suppression of perspiration, which in the dysentery is carried to the intestines.

He says, it attacks chiefly those of strong habits; for which reason people unused to the sea, and crews of ships soon after their leaving a port, where their vigour has been recruited, are most obnoxious to it. It is also caused by a quick passage from a temperate to a northern climate: and from north winds succeeding south winds, after cold rains.

Seamen, he says, quitting their work, wet with rain, and with sweat, lie down in the open air, with their wet clothes on, or throw themselves into an hammock badly covered, and sleep in that state; which, he says, never should be suffered on-board a ship.

He says, in cold weather, and in the north seas, seamen should have, instead of spirits, punch, wine, beer, or cider, as fermented liquors are proper to keep up perspiration, and assist digestion; which with sleeping dry, and being well covered at nights, will prevent diseases at sea, and extinguish a dysenteric disposition.

He says, officers, and such as are provided with necessaries, to guard against cold and moisture, are less affected than the common men, with diseases at sea.

In the cure, he says, in the beginning, when the diarrhœa comes on, it is necessary to evacuate the humours, by a vomit of ipecacuanha, which is to be repeated, according to circumstances, in the course of the disease, using no other aliment than broth, gruel, and rice; with sometimes the addition of a little saffron, or cinnamon. Where the pains are great, and the stools become bloody, bleeding is sometimes necessary: giving a ptisan of viper-grass root, sarsaparilla, and pearl-barley. A purge is then to be given of rhubarb, tamarinds, and manna. The patient is to be kept well covered in bed, and not suffered to walk about bare-footed; and the hatchways are to be kept shut near his bed.

A dram of diascordium is to be given every night, for some time, at bed-time, and frictions with dry flannels are to be used, and bottles with hot water applied to the body, to excite a gentle heat, and produce perspiration; emollient glysters are to be used; balsam of Locatellus, with some earths, are to be given; but not such absorbents, as may stop the excretions suddenly *.

ZIMMERMAN, in his Treatise on the Dysentery, says, that there was an epidemical dysentery in several parts of Switzerland, in the autumn of 1765, which was preceded and accompanied by a bilious putrid fever. This dysentery was cured with a drink made of barley-water and cream of tartar; small doses of cream of tartar and rhubarb; purges of tamarinds, &c. He is an advocate for fruit, particularly grapes, in the dysentery, and follows a practice he has collected from modern writers on the dysentery, particularly from the celebrated TISSOT.

He relates, as an important discovery by Doctor *Moehrlin*, for obtunding the acrimony of six or eight grain doses of the vitrum antimonii ceratum, that *three or four grains of marsh-mallow root, powdered,* should be added.

---

* This account of POISSONNIER's is chiefly taken from ROUPPE's *Morbi Navigantium*: but as it is somewhat an improvement on ROUPPE, I have given it the preference.

Zimmerman informs us, that he avoided those rocks, on which it seems many of his countrymen foundered through ignorance. He says, the *Breslaw* physicians laid it down as an indication, in the cure of the dysentery, that the inflammation should be resolved; and for that purpose recommended tormentil root, valerian, nutmegs, Hungary powder against the plague, and the *confectio de hyacintho.* He says, that Marquet, the Dean of the college of physicians at *Nancy,* forbad bleeding, and prescribed ipecacuanha, rhubarb, diascordium, and an astringent decoction, in an epidemical dysentery in *Lorrain;* where, he says, some people were walking about the streets at five o'clock in the afternoon, and were seized with it, and dead by ten o'clock at night.

He says, that the peasants killed themselves with brandy and strong waters; and that a favourite medicine among them for the flux, is red wine and rotten cheese; by which vast numbers killed themselves in the county of *Lenzburg.* This barbarous practice, he says, has been continued by ignorant physicians ever since the days of the famous SENNERTUS, by whose advice it originated.

ZIMMERMAN does not appear to have consulted the ancients on this subject; cheese having been a popular remedy for the dysentery in all countries among the common people, in all ages.

I wish he had informed us where SENNERTUS recommends *red wine and rotten cheese* in the dysentery: for I can find no such remedy, nor any idea leading to such practice, in the writings of that celebrated physician.

SENNERTUS says, *Lib.* iv. *part* 1. *cap.* 3. *de Alimentorum Facultatibus* — "omnis caseus alvum sistit;" and adds, what I believe applies very properly, except to laborious people, "meatus obstruit, et calculo generando materiam præbet." He says, also, new cheese is cold, and of a flatulent nature; and that the old and rotten sorts of it are the causes of many diseases; "recens et mollis adhuc frigidus est et humidus, et flatulentæ naturæ:—antiquos nimis et corruptos cavere oportet. Atram bilem generant, et plurimorum morborum authores sunt." But cheese has been long and justly exploded from medicinal use, in every country, except among the illiterate and ignorant.

In the treatment of the dysentery, authors differ but little, in the latter stages of the disease, and their difference there, is but of little consequence. For unless the disease has been managed with judgment in the beginning, the patient is generally indebted for his recovery to the strength of his constitution; or to some fortunate change that time, and not medicine, effects in his habit.

This is the reason that I have made what is relative to the first stage of the dysentery, the principal object of this treatise. Here authors differ widely indeed; and however successful their practice may have been in particular epidemics, there has been less done to serve the purposes of general practice, than might be expected from the united labours of so many learned and excellent physicians, at the only period of the disease, when method and medicine are of any importance. For I most firmly believe, that if the disease be at first judiciously treated, and the patient properly prepared for the use of bark, with a suitable regimen,—that horrid state of dragging on a miserable life, under an harassing dysentery, or diarrhœa, may almost always be prevented.

Hence it is that I have taken so little notice of stages of the dysentery which I think ought not to exist; and have disregarded that part of the practice of others, where the only merit consists in contriving some greasy, glutinous, or styptic, and unnatural composition, — which never can be used, but in violation of all the laws of animal œconomy.

It is certain that patients often err—habits of body vary—skilful advice is not always present—conveniences are sometimes absent—fluxes may remain after febrile symptoms have ceased—chronical dysenteries, and diarrhœas, will occur in practice—therefore, though it is not my design to enter into a detail, already sufficiently understood, I will communicate the best remedy I know in those diseases, for the reputation of which, I pledge the experience of many years. And I assure those who will not be deterred from using it, on account of its inelegance and cheapness, that they will find it productive of as much success, as any rational person can expect from one medicine.

The

The diversity of organization, temperament, and condition of the human frame is such, that there cannot be in nature, what many good men have wished for (but not for the purpose of concealing it for their own private advantage), an universal remedy in diseases.

Curative indications must depend on symptoms;—symptoms are not uniform and unchangeable. Ignorance may pretend to, but reason denies the possibility of SPECIFICS.

SOLUTIO VITRIOLICA.

℞ Vitrioli albi drachmas tres;
Aluminis rupei drachmam;
Coccinellæ pulveratæ grana tria;
Aquæ ferventis libram. Misce in mortario marmoreo. Solutio à fæculentia vel residendo expurgetur, vel per chartam bibulam filtretur.

In this solution, the proportion of either the vitriol or alum may be augmented or diminished, according to circumstances; that is, when evacuations are required, the quantity of alum may be diminished, or even entirely omitted; and when great astringency is required, the quantity of alum is to be increased, and the vitriol to be diminished. I frequently direct equal parts of these ingredients; that is, three drams of alum in the above quantity. The common English alum may be used. The dose is from a table-spoonful, to a tea-spoonful, according to the strength and age of the patient, which is to be taken every morning fasting; and in some cases to be repeated every six hours; without any addition or alteration, by diluting or mixing it, with any liquor whatever.

In slight dysenteries, and when the SUDORIFIC process could not be put in practice, I have used this solution with the utmost success: giving it at first without the alum, in sufficient doses to cause evacuations, and afterwards with the alum in nauseating doses, frequently, with opiates at night. This I have found far more efficacious in the dysentery, than emetic tartar, ipecacuanha, rhubarb, salts, calomel, or castor oil, as evacuants, in whatever manner combined, or administered.

But where a diarrhœa has been of long standing, the cure necessarily must be performed by slow degrees; then a dose every morning fasting, only, or every night and morning, will be sufficient. It is in inveterate cases to be continued for weeks, or months; omitting it now and then for a few days.

In table spoonful doses it generally causes vomiting, or great nausea, and sometimes purging, for the first few times of taking it. When the stomach is foul, vomiting may be encouraged by drinking chamomile-flower tea; otherwise that is unnecessary. If after taking it several times, it still create vomiting, or more nausea than is easily supportable (for some nausea is intended), the dose must be diminished. If it continue to purge more than is proper, or cause any griping, neither of which often happens, a few drops of laudanum must be given occasionally, or every night at bed-time. It is not necessary to observe any particular regimen, merely on account of the solution: and the patient may eat, or drink, as soon after it, as its disgusting taste, or the nausea it produces, will permit.

For an inveterate and harassing tenesmus, succeeding long continued dysenteries, and diarrhœas; where bloody mucus, or sometimes blood, and sometimes purulent matter, is perpetually voided, with intolerable soreness about the anus, I have known glysters remove the disease very soon.

℞ Extracti saturni, drachmam;
Aquæ puræ tepidæ, uncias octo. M.

This glyster is to be given every night; or oftener, if necessary; and when the irritation and tenderness of the parts are sufficiently abated, recourse must be had to the following; which is to be given warm, every night at bedtime.

℞ Extracti saturni, drachmam;
Decocti corticis quercûs, uncias octo. M.

I have cured several people, who have brought this most distressing complaint from the East, and West Indies, by the above enemata; aided with very little medicine.

ON THE

ENDEMIAL CAUSUS,

COMMONLY CALLED THE

YELLOW FEVER

OF THE

WEST-INDIES*.

THE *Endemial Causus*, or *Yellow Fever*, which is the terror of Europeans newly arrived in the West-Indies, is called by the French *la Maladie de Siam.*

Monsieur POUPPE' DESPORTES, who practised physic at *St. Domingue*, from 1732 until 1748, and who had more experience, and has written from better information on the diseases of that colony than any of his countrymen, says, this fever was so called, from its being first taken notice of in the island of *Martinique,* at a time when some vessels were there from *Siam.*

---

* This treatise has been separately published on the Continent, under the title, DE CAUSO TROPICO ENDEMICO, SIVE FEBRE FLAVA, QUÆ IN INDIIS OCCIDENTALIBUS OBSERVATÙR. It was my INAUGURAL DISSERTATION at *Leyden*.

" Le premier évenement qui l'ait fait remarquer, a été la relâche, à la Martinique, d'une nombreuse escadre qui venoit de *Siam,* & dont l'équipage, pendant son séjour dans cette Colonie, fut affligé d'une Fievre Maligne, ou Pestilentielle, qui fit périr un grand nombre de matelots." And notwithstanding this account of it by M. DESPORTES, he immediately says, " Cette maladie attaque très rarement les *Créoles* ou les *Sauvages* habitans de l'Isle : les Européens destinés à vivre sous un climat plus tempéré, en sont, pour ainsi dire, les seules victimes *."

This account, though probably true enough as to the time of its being first observed in the French colonies, is extremely incorrect in other respects: for M. DESPORTES has not only admitted a supposition that the disease originated among those East-Indian mariners, but calls it *pestilential,* and says, that Europeans are almost the only victims of it.

The generality of the French writers say that it was brought directly from *Siam,* in a merchant ship, and communicated to the people of *Martinique*, whence the contagion was carried to *St. Domingue*; but that sailors were the only people attacked by it; therefore it was also called *la Fievre Matelotte*[*].

---

* Vol. I. p. 191 & 192, Hist. des Malad. de St. Domingue.

This account of the origin of the disease has been universally credited by the French writers; who have not been at the trouble to consider, that a disease brought from *Siam* in the East-Indies, in a similar latitude to the West-Indian islands, would be most likely to affect the natives, living in a climate similar to that in which the disease originated, rather than Europeans of so different a temperament of body. But the fact is, that this disease never attacks either white or black natives of hot climates; neither was it brought from *Siam*: and though it is possible, from the heat of the climate, that it may frequently appear there, or in any other tropical country (BARRERE says it is unknown at *Cayenne*[†]), no history of that country, that I have yet met with, mentions such a disease*; notwithstanding what many writers have boldly advanced to the contrary†.

---

[*] The seamen at the *Cape*, in Hyspaniola, in the summer of 1734 were, nearly half of them, cut off by this fever. It has often since that time made its appearance there among the sailors, and has been very fatal.

[†] Nouvelle Relation de la France Equinoxiale, p. 61.

The Spaniards call it the *Vomito Prieto*, or the *Black Vomiting*; from its most direful symptom. By this disease their galleons sometimes lose the principal part of their men, in the West-Indies; particularly at *Porto Bello*, and *Carthagena*.

---

* LOUBERE, in his History of *Siam*, Part ii. Chapter 4, says, "among the most dangerous diseases there, are fluxes and dysenteries, from which Europeans that arrive at this country have more trouble to defend themselves than the natives of the country, by reason that they cannot live sober enough. The *Siameses* are sometimes attacked with calentures, in which the transport to the brain is easily formed, with defluxions on the stomach. Moreover, inflammations are rare, and the ordinary continued fever kills none, no more than in other places in the torrid zone. The external, does so exceedingly weaken the natural heat, that of an hundred sick persons, Mr. *Vincent*, the provincial physician, declared that he scarce found one that had the fever, or any other hot distemper. There are a great many cancers, abscesses, and fistulas. The erysipelas is here so frequent, that among twenty men, nineteen are infected with it." &c.

† WARREN, a physician at *Barbadoes*, in his *Treatise concerning the Malignant Fever in Barbadoes*, written in 1739, says, "it is called *la Maladie de Siam* from a country of that name in the East Indies, where it is a constant inhabitant." Page 3.

That this disease is a species of the Καυσος of HIPPOCRATES *, ARETÆUS †, and GALEN ‡,—that is, the *Febris Ardens,* or *Causus,* as it is called, I think there can be no doubt;—aggravated by climate—incidental only to the gross, inflammatory, and plethoric—at any season of the year—and totally different from the *Remittent Bilious Fever,* to which all habits of body are subject, in hot climates, particularly after rains, and in the fall of the year.

The causus, the most ardent fever in temperate climates, as described by the fathers of physic, is a disease seldom seen in these northern parts of Europe; and never attended with that violence of symptoms, which accompanies the same description of disease in hot climates. And whether in latitudes so mild as those of Spain, Italy, Greece, and the Archipelagan islands, the causus has ever been attended with *black vomiting,* as in the West-Indies, I cannot tell. LOM-

---

* Lib. de Acutorum Morborum Victu, et Lib. de Affectionibus.

† De Causo, Lib. ii. cap. 4. de Caus. et Sign. Acut. Morb.

‡ Comment. iv. in lib. HIPP. de Acut. Morb. Victu.

MIUS mentions the vomiting of blood, and voiding black liquid stools, and black urine *.

Critical, and symptomatical yellowness of the skin in the causus is enumerated among the symptoms by HIPPOCRATES †; and the accurate LOMMIUS particularly mentions the danger of that appearance before the seventh day; "grave esse periculum significatur ubi aurigo ante septimum diem oritur ‡."

The affinity of the symptoms, progress, and termination of a causus, in Europe, to those of this fever of the West-Indies, excepting the black vomiting, leaves no room to doubt that the difference of climate constitutes all the difference that is found between them. Therefore I have adopted the name of *Endemial Causus;* the propriety of which, I hope, will be justified, in the description of the disease.

The *black tongue* is always mentioned as a symptom in the causus; of which appearance HIPPOCRATES has made a judicious discrimination, that all other writers have omitted.—The tongue, he says, "primum, flava est: sed procedente tempore nigrescit. Si igitur per initia nigrescat, celeriores sunt liberationes; si vero postea, tardiores [*]." Which is exactly the case in the yellow fever.

---

* Lib. i. Med. Obs.

† Lib. de Judicat.

‡ Loc. cit. et HIPPOCRAT. Aphor. 62. sect. 4.

TRALLIAN says, in the *genuine* causus the tongue is black, but not in the *spurious* causus; yet he considers the latter as the most dangerous disease [†]: and LOMMIUS speaks of the peril of the tongue being first dry, then rough, then black and foul [‡].

HIPPOCRATES mentions in other places, some circumstances not enumerated in his description of the causus, that will be taken notice of hereafter, which we find correspond with the yellow fever; and are convincing proofs that he had seen fevers attended with a vomiting of black blood (what the antients sometimes termed black bile), as in his prognostics he often mentions the fatality of that symptom; and some that were equally rapid with this disease.

Of the causus, he says, "*Febris Ardens* fit, quum resiccatæ venulæ tempore æstivo, acres et biliosos ichoras ad se attraxerint: ac febris multâ detinet, corpusque quemadmodum ab ossearià lassitudine affectum, laborat, doletque. Fit plerumque tum ex longo itinere, tum longa siti, quum arefactæ venulæ acres calidasque fluxiones ad se attraxerint. Fit vero lingua aspera, et sicca, valdeque nigra; partiumque ventris morsu dolet; dejectiones tum liquidæ, tum pallidæ fiunt, sitis adest vehemens, et vigiliæ, atque interdum mentis alienationes *."

---

[*] Lib. de Diebus Judicatoriis, cap. 5.

[†] Lib. xii. cap. 3.

[‡] Loc. cit.

He observes, also, "febris et sitis vehemens afficit, lingua aspera et nigra, spiritus sanè calore redditur, color aliquantulum biliosus fit, et sputa biliosa. Atque ægro exteriora frigida sunt, interiora verò admodum calent †."

He says, there is another species of causus, in which, "alvus subducitur; siti scatet; lingua aspera, sicca, salsa; urinæ suppressio; vigilia; extrema refrigerata ‡."

Of the two species of this disease, mentioned by HIPPOCRATES, GALEN denominates one a *genuine*, and the other a *spurious* causus: one was supposed to proceed from bile; the other from phlegm. In the former the tongue was black; in the latter not. TRALLIAN, and other writers, have adopted this distinction. GALEN also remarks, that the coldness of the extremities is a symptom only of the spurious causus, and then only when the fever is malignant; but that in the genuine, bilious, and burning causus, the heat of the body is extended to the extremities.

---

* De Acut. Morb. Victu, Sect. 4. art. 1, 2, 3, 4.

† De Affectionibus, Lib. cap. 3.

‡ De Acut. Morb. Victu, Sect. 4. art. 13, 14.

He says, "*Febrem Ardentem* medicos reperio appellare, quum calor hominem exurat, sitisque inexplebilis detineat. Quod si ita se habeat, causum eum, in quo corpus non uritur, sitisque levis est, causum quidem simpliciter, exquisitum autem legitimumque non dicemus *."

ARETÆUS, in his description of the causus, says, "Ignis passim et acer et tenuis est; sed intus maxime. Spiritus tanquam ab igne, calidus; aeris vehemens attractio, frigidi cupiditas, lingua arida, in labiis et cute squalor; algent extrema, lotium quam biliosissimum, insomnietas, arteriarum motu crebri, parvi, imbecilli; oculi puri, lucentes, subrubri; facies bene colorata."

---

* In Lib. HIPP. de Acut. Morb. Victu, Com. 4. art. 13.

"Quod si morbus ulterius crescat, omnia majora et sæviora fiunt. Arteriæ minimis motibus et creberrimis agitantur; ignis aridissimus et accerrimus. Mens delirat, omnia ignorat. Siticulosi fiunt, omnia frigida attractare cupiunt, parietem, vestem, pavimentum, humorem. Manus frigent, sed palmæ perquam calidæ. Ungues livent. Spiratio crebra est; roscidus humor circa frontem et jugula. Quum ad summam ariditatem caloremque corporis natura pervenerit, tum calidum in frigidum, squalor in imbrem convertitur. Rerum namque ad maximam molem incrementa in contrarium statum prolabuntur. Ubi ergo naturæ nexus soluti fuerint ea syncopa est. Tunc sudor ingens toto corpore funditur, et nullo pacto compescitur. Spiratio frigida est, vapor è naribus multus exhalat. Siti non vexantur; cætera enim exaruerunt; quinetiam alia instrumenta sitiunt, os et gula; urina tenuis et aquea redditur. Alvus plurimum adstricta est; nonnunquam tamen pauca quædam biliosa descendunt. Copiosa et aliena humiditas redundat, ossa quoque tabescentia diffluunt, et undique, ut in flumine, ad exteriora omnia dilabuntur*."

LOMMIUS, in enumerating the symptoms, has taken in some, omitted by ARETÆUS, in

---

* De Caus. et Sign. Acut. Morb. Lib. ii, cap. 4.

the preceding relation.—"Summo incendio corpus extorretur, idque intus magis quam foris. Accedit pertinax vigilia, et profundior interdum somnus. Lingua arida, et crassa, et aspera, subnigraque et amara est. Spiritus difficillimè trahitur, incipit affici morsu stomachus, cibique cupiditas perit, vehemens tum sitis, tum æstus præcordiorum est. Alvus aliis soluta, aliis compressa est. Ipse æger penitus inquietus morbum male sustinet, frequentique subinde delirio perturbatur. Hoc febris genus, quoniam summe vehemens est, brevi finitur. Itaque si protinus ab initio signa exhibet bona, plerisque omnibus quarto die solvitur, nullis post septimum manet. Tum vero aut vomitio fit, aut alvus profluit, sudorve ex omni corpore, aut sanguis è naribus fertur *."

Notwithstanding that degree of causus which we call the *Yellow Fever*, appears from the nature of the disease to be indigenous to the torrid zone, there was no notice taken of it in the West-Indies until nearly two centuries had elapsed from their discovery.

Ulloa says, "the *Vomito Prieto* was unknown at *Carthagena*, and all along the coast, till the years 1729 and 1730. In 1729 *Don Domingo Justiniani*, Commodore of the *Guarda Costas*, lost so considerable a part of his ships companies at *Santa Martha*, that the survivors were stricken with astonishment and horror at the havock made among their comrades. In 1730, when the galleons under *Don Manuel Lopez Pintado* came to *Carthagena*, the seamen were seized with the same dreadful mortality; and so sudden were the attacks of the disease, that persons walking about one day, were the next carried to their graves."—"Unhappily, after all the experiments of the surgeons of the galleons, and physicians of the country, no good method of treating the disease has been discovered; no specific for curing it, nor preservative against it *."

---

* Lib. i. Med. Obs.

WARREN, though he lived at *Barbadoes* in 1739, supposes it never appeared in that island, until about the year 1721, and that it was then brought from *Martinique*, in the *Lynn* man of war. He says, the second appearance of it there, was in 1733, and that it then came also from *Martinique*.

He undertakes to shew, that it is a disease of *Asiatic* extract, and says, that "a *Provençule* fleet arrived at *Port St. Pierre* in *Martinique* from *Marseilles* on-board of which were several bales of Levant goods, which were taken in at *Marseilles*, from a ship just arrived from *St. Jean D'Acre* (probably the *Ptolemais* of the ancients). Upon opening these bales of goods at *Port St. Pierre*, this distemper immediately shewed itself, many of the people were instantly seized, some died almost suddenly, others in a few days, and some lingered longer; and the contagion still spreading, made great havock at the beginning."—He says he had this account from Mr. *Nelson*, an English surgeon, who was seized with the disease in *Martinique*, and died of it a few days after his arrival at *Barbadoes*.

---

* Voyage to South America, Book i. chap. 5.

He says, it is "probable that the same fever, or one of very near resemblance and affinity, may first have been carried among the American Spaniards (among whom it is now endemic), in somewhat a like manner; and that possibly some peculiar qualities in the air and climate might have fostered and maintained it there ever since."

And yet, he says, sea-faring people and new-comers are most obnoxious to it; "such as had purer blood, and probably less adust than that

of

of the natives; or of those whose constitutions had been, for many years, fitted and habituated to the climate *."

How a climate should foster a disease, and a contagious one, and the natives of that climate be exempt from it, I cannot comprehend: but the whole story is fabulous, therefore it is unnecessary to reason on it.

TOWNE, who practised in *Barbadoes,* and who wrote on the diseases of that island before him, in 1726, takes not the least notice of this chimerical origin of the *Yellow Fever,* but considers it as an endemical disease in the West-Indies; to which Europeans are subject on their first arrival: and HILLARY, who wrote long after both of them, in 1759, says, it is "indigenous to the West-India islands, and that it most commonly seizes strangers, especially those who come from a colder or more temperate climate." He says, "a better inquiry would have informed WARREN that this fever had appeared in Barbadoes, and the other West-India islands, many years before; for several judicious practitioners who were then, and now are living, whose business was visiting the sick, some of them almost eighty years of age, who remember to have seen this fever frequently in this island, not only many years before that time, but many years before that learned gentleman came to it *."

---

* Pages 5 and 6.

It is repugnant to reason to fix any period to the origin, or to calculate the cessation of a disease depending on climate, with which it must be coëval.

HUGHES, who was not himself a medical man, says, in his Natural History of Barbadoes, in 1750, "doctor GAMBLE remembers that it was very fatal here in the year 1691, and that it was then called the *New Distemper*, and afterwards *Kendal's Fever*, the *Pestilential Fever*, and the *Bilious Fever*. The same symptoms did not always appear in all patients, nor alike in every year, when it visited us. It is most commonly rife and fatal in May, June, July, and August, and then mostly among strangers; though a great many of the inhabitants in the year 1696 died of it; and a great many at different periods since †."

The English forces under VENABLES, in the conquest of Jamaica in 1655, suffered greatly by this fever; and as ECHARD truly says, "met with an enemy more severe than the

---

* Page 144.

† Page 37.

Spaniards," in this disease; which he calls the plague.

Warren, positive as to the origin and pestilential nature of this fever, invented a treatment (in which bleeding was seldom or never to be performed, and the patient to take heating-alexipharmics, and to be covered up with blankets) consistently erroneous with his pathological principles. Yet among all this perversion of reason, the rays of an excellent understanding frequently break forth, through the clouds of hypothetical chaos.

But Warren addressed his book to Mead, whose tenets he had imbibed; and Mead was the Archimedes of physic:—give him but his position, and the whole Æsculapian world was turned upon the axis of a syllogism.—Nature was in those days empiricism, and contagion and infection were fashionable doctrines.

Thucydides ventured only the reputation of common report, in tracing the plague of Athens, through Africa and Ægypt, down from Æthiopia *. But Matthæus Villanus, and Mead

---

* Diodorus Siculus, Lib. xii. cap. 7. gives a very rational account of that distemper. He says, "the Athenians

MEAD, ventured much farther; the former found no difficulty in bringing the plague, which

---

ans during this incursion, durst not come into the field, but kept close within the walls of their city; by reason whereof a great plague raged among them. For a multitude of all sorts of people being crowded together, it may be reasonably concluded, that through the straightness of the places, the air was corrupted and caused the infection."—Of the second plague, he says, "abundance of rain had fallen in the winter, by reason whereof the earth being over-wet in many places, especially in low and hollow grounds, the water lay like standing pools; and those being putrified and corrupted by the heat of the summer, thence proceeded a mist of gross and stinking vapours, which corrupted the air, as it often happens about filthy marshes; and besides, the want of food much advanced the progress of the disease, for the year before, the fruits, by too much rain, were crude and unwholesome."

"There was likewise a third cause of this distemper, which was this. The *Etesian* winds (northern winds), which come at stated and certain times of the year, did not blow this summer, by whose gentle breezes the violent heat was constantly allayed, before, at other times; so that the heat being now excessive, and the air as it were inflamed, men's bodies now wanting the usual refreshment, contracted an evil habit, from whence arose, through the vehement and immoderate heat, all sorts of burning distempers; and hence it was, that many seized with this disease, to free themselves from the burning heat that was in their bodies, cast themselves into pits and wells. In the beginning of the distemper, before the sun arose, through the coldness of the air that came from the water, their bodies would shake and tremble; but about noon, being so close, and shut up together, which originated in Venice 1348, from Greece; and the latter in making the *Sudor Anglicanus* a mutilated plague, and transporting it from the siege of Rhodes by the Turks; notwithstanding the disease appeared five times, after long intervals, in this country, where it unquestionably was a genuine endemic. However, neither of these two gentlemen would, I believe, have ventured to follow the contagion of the *Yellow Fever* from Palestine to Marseilles, and from Marseilles over the Atlantic Ocean, to the Western World.

gether, they were suffocated with heat. At first, catarrhs and swellings of the throat came on, caused by the stench of the bodies that lay unburied, and the putrefaction of the soil. Then followed fevers, pains in the back, heaviness of the loins, dysenteries, blotches, and boils, over the whole body. Thus were they tormented by the plague. Others were stricken mad, and ran about the camp like wild beasts, and beat every person they met. All help of physicians was in vain, both by reason of the violence of the distemper, and the sudden dispatch it made of many; for in the midst of great pains and horrible torments, they died, commonly on the fifth, or at most on the sixth day. But the Athenians judged that so grievous a distemper was from God, and therefore, according to the charge given them by the oracle, they purged the island of *Delos*, which was formerly dedicated to *Apollo*, now polluted as they conceived, by burying many dead bodies there. Therefore all the graves of the dead were dug up, and the urns were transported into the next island, *Rhene;* and a law was made that it should not be lawful for any, for the time to come, either to bury, or to bear a child in *Delos*."

A French author, in a publication in 1776, at Paris, intitled, *Des Moyens de conserver la Santé, &c. aux Antilles, ou Climats Chauds et Humides, de l'Amérique*, speaking of the yellow fever, says, "C'étoit une sorte de fievre colliquative très-aigue."—"Cette Maladie qui étoit contagieuse, fut d'abord traitée par d'abondantes saignées, mais sans succès; on fut plus heureux moyennant l'usage intérieur des acides, et leur application extérieure. Ce que nous avançons ici n'est que sur le rapport des autres; cette maladie n'existoit plus à notre arrivée aux Antilles."

It is impossible to say what could give this gentleman an idea that the application and use of acids would cure the *Yellow Fever*, or what could induce him to suppose it was extinct; but the following curious questions are not to be omitted. They will serve as a full sample of their author's knowledge, and justify the leaving him, for something more relative to our subject.

"Quelles ont été ses causes qui probablement n'ont été que passageres? Quelles ont été celles de son *extinction?* Les causes de cette maladie existoient-elles dans le pays? Se rencontroientelles dans les bâtimens? Ou étoit-ce dans l'atmosphère qu'on traversoit dans la route*?"

---

* Page 30.

In the *Endemial Causus* of the West-Indies, some of those symptoms which have given names to the disease, are now but seldom seen, unless when the patient has applied for advice too late, or where improper advice has been unfortunately pursued: nor did I ever see, or hear of an instance, which LIND supposes may happen, that the "*black vomit* may attack a man, when newly arrived there, without any previous complaint †;" nor of this disease coming on with "an uneasy itching sensation commonly in the legs, and upon pulling down the stockings, streams of thin dissolved blood followed, a ghastly yellow colour quickly diffused itself over the whole body," &c. ‡. The former, unquestionably, is a symptom of the *Endemial Causus,* though not at the period of it LIND suggests; but the latter is no symptom of this disease, nor, I believe, of any other.

That the black vomiting appears earlier in some cases than in others, is certain; and the earlier it appears, the greater certainty there is in the prognostic of immediate death*.

---

* Page 30. † Page 129. ‡ Page 143.

From the various names given to this disease, improperly taken from its ultimate, and not from its primary symptoms, many difficulties have arisen to young practitioners, and to strangers in the West-Indies: and this confusion of terms, has often been productive of fatal consequences in practice.

Towne calls it, *Febris Ardens Biliosa;* Warren, a *Malignant Fever;* and Hillary, a *Putrid Bilious Fever*.

Warren attacks Towne, and Hillary attacks Warren, respecting the propriety of terming it *bilious*. I think I may venture to assert that neither of them has decided, whether *bile* is the *cause* or the *consequence* of the disease†.

Towne appears to me to have had a more correct idea of the disease than Hillary; and Warren, I think, except in his description of the symptoms, had scarcely any idea of it at all.

---

* Quibuscunque morbis incipientibus, si bilis atra sursum, aut deorsum prodeat, lethale.

Hippocrat. Aphor. xxii. sect. 4.

† See pages 137, 138.

It is my opinion that the importance of the name of this fever, has not been sufficiently considered; and HILLARY, though he disapproves of the appellation which some have given to it, evades the subject himself, as a dispute only about words.

I own I differ from him widely; for among the mischiefs which attend misnaming this fever, or giving it a name that conveys no idea of its first appearance, a stranger will not know what disease it is when he sees it,—until accompanied by its fatal attendants, a yellow skin, and black vomiting.

If this disease be called a *Malignant Fever*, the idea which is annexed to a malignant disorder will influence the treatment of it; such practice as is necessary in an inflammatory disease, will never be thought of here, and the same mistakes will be committed by others, as were committed by WARREN; who, from thinking it not only malignant, but *pestilential* and *contagious*, instead of bleeding, and purging, on which in the beginning the cure solely depends, he began by covering the patient up, and stifling him with bed-clothes, and alexipharmics, which must, as HUGHES observes, " have very often failed *."

---

* Hist. of Barbadoes, page 39.

If it be denominated a *Putrid Bilious Fever*, what person in treating a putrid fever would think of large and repeated bleeding in the beginning?—If it were a putrid bilious fever, such practice would certainly be improper; therefore, surely this term also must have an injurious tendency.

I have used the word *yellow* in compliance with custom; but I even distrust that name: as the inexperienced may be looking out for that appearance, and not find, until it is too late, the disease he has to contend with. Indeed the yellowness of the skin, like the black vomiting, is not an invariable symptom of this fever;—those who are fortunate enough to recover, seldom have it; and many die without its appearance. Besides, the yellowness alone leads to nothing certain; it may arise from an inoffensive suffusion of bile, as well as from a gangrenous state of the blood.

The term to express a disease by, should agree with some circumstances that characterize its attack, or first appearance. The circumstances which characterize this, agree with no fever, but the causus. Besides, this disease is no more putrid, than the small-pox, or any other acute disease; which may, after it has passed its inflammatory period, change to putrefaction, and end in death, with an extraordinary degree of dissolution of the fluids.

The truth is, that this disease is, in the highest degree possible, an inflammatory one; accompanied with such symptoms, in a greater extent, as attend all inflammatory fevers, and most strikingly the reverse of any disease that is putrid, or of one continued exacerbation *. It obeys no particular season of the year; and attacks also such people, and under such circumstances, as are seldom the objects of putrid diseases.

In the history of this fever, a multitude besides those whom I have named, have tried their strength, in vain. But the symptoms have always been better described, than the disease has been treated.

An attentive observer may describe a disease, though he may not know how to treat it properly; for though there can be but one way that is just, in describing a disease, conformably

---

* "Differt autem febris ardens à continente putrida, eo quod hæc ex sanguine putrefacto conflatur, et à principio usque in finem unam habet exácerbationem." AETIUS, Tetr. ii. serm. 1, cap. 77.

to the steadiness which nature always observes, —yet there may be several ways of curing it; which nature herself adopts, and in which she is not constant.

What passionate contentions and wild theories has this fever given birth to, since the phrensy of Williams and Bennet, in Jamaica * !

What volumes of speculations, with scarcely a ray of information, have appeared, on this hard subject, " in terris et alto," since the last edition of this work !

How peremptorily has each contradiction been carried on, for doctrines, diametrically opposite to others, as ferociously maintained !

It appears, as if these literary warriors, had taken a passage in Hippocrates, for their ground of dispute ; but knocked down his relative discrimination, as useless, in the fury of the contest.

Ιητρικη γαρ εστι προσθεσις και αφαιρεσις †.

People from colder climates, North-Americans and Europeans, on their arrival in the West-

---

* See page 138.

† Περι Φυσων. K. a.

Indies, as I have observed already in another place*, are subject to what is called a *Seasoning*. This seasoning is understood to be the first illness they are attacked with; which, unless they live temperately, or are in a proper habit of body, though some people are unmolested for many months, seldom suffers them to remain long before it makes its appearance, in some mode or other; particularly if, at first, they expose themselves in a shower of rain, or too long in the sun, or in the night-air; or when the body is much heated, if they drink large draughts of cold liquors, or bathe in cold water; or use much exercise; or commit excess in drinking wine or spirits; or by heating the body and inflaming the blood; or by subjecting themselves to any cause, that may suddenly check perspiration, — which at first is generally excessive.

"Scio equidem nonnullos ob liberalem vini aqua marina diluti potionem, *Causo* fuisse correptos; veluti et alios ob salsamentorum, salsarumque carnium atque aliorum quorundam salsorum esum immoderatum; alius ex ambulatione et æstu veniens, primum quidem lavit se, deinde domum perductus, vini mixti plus bibit, cœpitque protinus affici *Causo*; alius autem ob vehementem excandescentiam, et alius ob vigilias *Causum* incurrerunt *."

---

* Page 124.

Some persons from a favourable state of body, have no seasoning. Thin people, and very young people, are most likely to escape it. Women generally do from their temperance, and perhaps their menstruation contributes to their security; indeed hot climates are favourrable to the delicacy of their habits, and suitable to their modes of life. Some escape by great regularity of living; some, by the breaking out of the rash, called the *Prickly Heat*; some by a great degree of perspiration; and some by observing a cooling regimen.

The disorders are various that constitute this seasoning of *new-comers,* as they are called; depending on age, constitution, and habit of body.

But all seasoning diseases are of the inflammatory kind; and yield to antiphlogistic treatment, proportioned to their violence. — In this general position, I do not include the derangements which may happen to habits, naturally, or from disease, at variance with hot climates.

---

* GALEN, Com. iv. in lib. HIPP. de Acut. Morb. Victu, art. 3.

Subjects most likely to be attacked by the *Endemial Causus*, are the florid, the gross, the plethoric; — that sort of strong, full, youthful people with tense fibres, who in England (to use a vulgarism) are said to resemble the picture of health. In short, so are all persons who are of an inflammatory diathesis, and do not perspire freely.

That this fever should be called by the French *la Fievre Matelotte*, I think is very natural; and that sailors, who eat, drink, and sleep so much at sea, and use no exercise, being always of a gross habit of body, should be attacked with it more than other new-comers to the West-Indies. The heat and dampness of harbours, generally in the neighbourhood of marshes, and exposed to land winds at nights; the labour on-board of vessels in port, lying still at anchor, in the scorching rays of the sun, and the carelessness and excesses committed by people of this class, when they are on shore, after long voyages, must always subject them to the worst evils climate can produce.

When a new-comer is seized with a sudden loss of strength, and a desire of changing, for rest, into every position, without finding it in any, those symptoms which constitute the *Endemial*

demial Causus may be expected. This is of great consequence to be understood, and to be well remembered.

When a new-comer is taken ill in hot climates, an intermission is not to be waited for; disease must be stifled in its birth.

Supposing a person, answering any of the preceding descriptions, just arrived in the West-Indies, were to expose himself to the causes already mentioned, the probable consequences would be, that to-morrow he would perceive an heaviness, a lassitude, an oppression, and a loss of appetite. This is the time to extinguish the disease; but Europeans and North Americans neglect it, as they are not accustomed at home to have recourse to medicine, on the first moment of indispositions.

The following day, but sometimes within twelve hours from the first indisposition, the violence of the disease will commence thus:—

There will be a faintness, and generally a giddiness of the head, with a small degree of chilliness and horror, but never a rigor *. Then immediately will succeed, an high degree of fever, with great heat, and strong beating in all the arteries of the body, particularly observable in the carotid and temporal arteries; flushings in the face; gasping for cool air; white tongue, but tinged with yellow, after the retchings have commenced; excessive thirst; redness, heaviness, and burning in the eyes; heaviness and darting pains in the head, and small of the back, and often down the thighs; pulse quick, generally full and strong; in some cases quick, low, and vacillating; skin hot and dry, sometimes with a partial and momentary moisture; sickness of the stomach, from the first, which increases with the disease, and immediately after anything is taken to quench the thirst, retchings succeed, in which bilious matter is brought up; anxiety with stricture, soreness, and intense heat about the præcordia; great restlessness; heavy respiration; sighing; urine deep coloured, and but little in quantity. This is the first stage of the fever, and may continue 24, 36, 48, or 60 hours; and this constitutes its inflammatory period.

---

* "Cum rigore non irruit.—Neque rigor exacerbationes præcedit." Aetius, Tetr. ii. serm. 1. cap. 77.

The second stage begins with an abatement of many of the preceding symptoms, and the rise of others; sometimes with a deceiving tranquillity, but with perturbation, if the patient should fall into a sleep; then a yellow tinge is observed in the eyes, neck and breast; the heat subsides, and sometimes with a chilliness. But not with that sort of strong rigor *, which, when it happens, terminates the disease by sweat, or by copious bilious evacuations, upwards or downwards. The retchings increase and turn poraceous; the pulse flags, but is sometimes high, and sometimes soft; the skin moist and clammy; urine in small quantity, and of a dark croceous colour; the tongue, in some cases, is dry, harsh, and discoloured; in others it is furred and moist; confusion in the head, and sometimes delirium; with the eyes glassy. This stage of the disease sometimes continues only for a few hours, sometimes for 12, 24, 36, or 48 hours, but seldom longer.

It is in the beginning of this second stage when attempts have failed, or have been neglected, in the inflammatory stage,—that the great struggle is to be made between life and death.

In the third and last stage of the fever, the pulse sinks, and becomes unequal and intermit-

---

* "Ardente febre laboranti, superveniente rigore, solutio contingit." HIPPOCRAT. Aphor. lviii. sect. 4.

"Febrem autem ardentem, quam Græci καυσωδη vocant, subitus horror exolvit." CELSUS, Lib. ii. cap. 8.

tent, sometimes very quick; frequent vomiting; with great straining and noise in vomiting, and what is brought up now, is more in quantity, and has the appearance of the grounds of coffee, or is of a slate colour; nothing can be retained in the stomach; difficult breathing; tongue black; cold clammy sweats; eyes yellow, and sunk; yellowness round the mouth and temples, and soon after over the whole body.

This universal yellowness growing deeper coloured, accompanied by an aggravation of all the other symptoms, is the immediate forerunner of death. Deep respiration; subsultus tendinum; a convulsive kind of sighing; black urine; sometimes total suppression of urine; death-like coldness of the hands, feet, and legs; heat still about the pit of the stomach; delirium, and struggling to get up in the bed; faultering speech; trembling; blood oozing from the mouth, and nostrils; sometimes from the corners of the eyes, and from the ears; vomiting black bloody cruor; stools the same; livid spots about the body, particularly the præcordia; hiccup; muttering; coma; — death.

I have divided the disease into three stages, because, between the *inflammatory*, and the *gangrenous state*, there is a distinct period of its *metaptosis;* a composure preceding mortification, as is observed on all other occasions; which sometimes gives sufficient length of time to perform the cure; though sometimes it is of so short a duration, that the patient rushes immediately, as soon as the inflammatory state is passed, into the black vomiting. Sometimes, in this period of the disease, the symptoms are so mild, and the patient so tranquil, that the disease is supposed at an end; and all means are neglected, or thought unnecessary, until the storm appears which succeeds this fatal calm, arrayed in those dreadful forms I have enumerated, as characteristic of its third stage, and completes the catastrophe.

The preceding description corresponds with the general order and manner of the disease, when the patient dies from the third or fourth, to the seventh day. But many patients do not experience all the symptoms that I have mentioned, which vary according to habit of body; some inclining to characterize the *genuine,* and some the *spurious* causus, of the ancients. Some have no chilliness at first, nor faintness, nor flushings in the face, and the pulse is sometimes deeply depressed, and not quick; and there are gross habits of body, which have been attacked in very sultry weather, in damp situations, where the inflammatory period has been only of a few hours duration, the *metaptosis* has been so rapid, that the black vomiting, and the mortified state, have unexpectedly appeared, and have ended the patient in 24, 36, or 48 hours. On the contrary, there are some instances where the disease has been protracted to the eighth, ninth, or tenth day; and others where it has never passed from the inflammatory stage; but being checked, though not extinguished, it has been lengthened out, and at last converted into a remittent of great duration, of most difficult cure, and tedious recovery.

During all the periods of the disease, great heat is perceived near the præcordia, and soreness and uneasiness complained of, in pressing the hand upon those regions. After death, livid spots appear over the whole body, particularly about the præcordia, which, as WARREN justly remarks, "seem from the beginning to be the chief seat and throne of the furious conqueror."

The cause of this uniform and particular suffering about the præcordia, I think is not what HILLARY has assigned; that the parts are near to the "seat of the liver and gall-bladder;" and by no means proved, though "the gall-bladder and its ducts, are always found turgid with poraceous, blackish, and putrescent bile;" but principally from the contents, or the condition of the stomach; at first from its hot, corrosive, acrid contents; at length from inflammation, from the convulsive motion of incessant straining and vomiting. In short, this viscus seems to bear the chief burden of the disease, while life remains, and the principal internal vestiges of its effects, after death.

GALEN explains the cause of that sensation, which is perceived about the præcordia in the causus, to be, from a flux of acrid humours thrown on the adjacent parts *.

At the end of the disease, the stomach, in some part or other, is generally mortified, where the black vomiting has been protracted; and when livid spots have appeared on the body previous to death: for on inspecting many dead bodies, I have always found some part of the stomach, and frequently the superior part of the duodenum, in a gangrenous state, and never without evident marks of injury from inflammation, let the disease have been of ever so short a duration. It has been said, that gangrenous spots have been observed

---

* Comment. iv. art. 4. in lib. HIPP. de Acut. Morb. Victu.

served in the inferior parts of the curvatures, of a very considerable portion of the intestinal canal; but this I have never seen.

These appearances are universally produced by a mortal yellow fever; but from the appearance of the liver, and gall-bladder, though both must be materially affected in this disease, there is no inference to be drawn that can be depended on. Though the cause of the disease assigned by GALEN, certainly favours a different conclusion *. Indeed GALEN himself, speaking of particular symptoms, supposes the causus sometimes, may have its seat in the stomach, or liver, nay even in the lungs †.

In the course of the disease, though there are some symptoms common to inflammations of the liver, yet there are more, to inflammations of the stomach; and none of the invariable symptoms which distinguish inflammations of the liver, from all other diseases.

---

* "Oritur ex bile non nimis sicca, circa venas quæ ad jecur sunt." Introductio seu Medicus, cap. 13.

† Propterea hæc, in *ventre* ac *hepate* causi veluti sedem habentibus, accidunt. Verum in *pulmone* causi sedem habentibus, hæc non admodum contingunt. &c.

Com. iv. art. 4. in lib. HIPP. de Acut. Morb. Victu.

There is no heavy fixed pain in the right hypocondrium, with inflation and tension, and hiccup, as when the concave part of the liver is is inflamed; there is no evident and painful enlargement of the side, with acute pain in breathing, extending up to the neck, or top of the right shoulder, and dry cough, as when the convex part of the liver is inflamed.

This fever never terminates in suppuration of the liver, as in the *Hepatitis;* though it must be confessed it often does, in an enormous excretion of bile.

Dissections have never discovered any certain, and uniform appearance in the liver, of those who have died of this disease.—In hot climates a sound state of the liver is never to be expected, after death; whether the disease has been acute, or chronical.—Of the latter class of diseases, it is almost always, either the seat or the origin.

It is unnecessary to fill many pages with a long catalogue of prescriptions, and medicines, in the treatment of this fever; for it is comprised in a few words, and almost as few medicines; and requires only care and attention that those moments do not slip away, that the occasion is for ever lost, when

Bleeding,
Purging,
Baths,
Diaphoretics,
Blisters, and
Bark,

ought to have been timely used, for the salvation of the patient's life; and that afterwards, they are not untimely employed for its destruction.

If a person newly arrived in the West-Indies, has subjected himself to any of the causes which may produce this fever, previous to its attack, he has sufficient warning given him, if he will attend to it, and time enough in general, to cure it by anticipation. For as soon as any heaviness, or lassitude, or restlessness, or stretching and yawning, is perceived, he has reason to expect that they are the harbingers of this tragedy; and he should immediately be bled, and take a dose of salts, and dilute plentifully, and keep himself quiet and cool: and after the operation of the salts, he should take small doses of *James's* powder, live low, and drink barley-water. After the body is well evacuated, and cooled, it is always prudent to take bark.

In the first stage of the fever, when it has made a regular attack, when these precautions have not been used, or when they have failed, and the patient is no longer able to abstain from his bed, he should be kept in a large room, as cool as possible, covered lightly with bed-clothes, with a circulation of air admitted into the room, but not directly upon, or near the bed; and this must be observed through the whole of the disease.—" Amplo conclavi tenendus, quo multum et purum aërem trahere possit; neque multis vestimentis strangulandus, sed admodum levibus tantum velandus est *;"—" et per flabellum aër ignavior concitetur †."

Bleeding must then be performed, and repeated every six or eight hours, or whenever the exacerbations come on, while the heat, fulness of pulse, and pains continue: and if these symptoms be violent and obstinate, and do not abate during the first 36 or 48 hours of the fever, bleeding should be executed, *usque ad animi deliquium*.

The blood taken away in the beginning, is very florid, and of the arterial blood colour;

---

* Celsus, Curatio Ardentis Febris, Lib. iii. cap. 7.

† Aetius, Tetr. ii. serm. 1, cap. 78.

and the surface never sizy, and seldom contracted.

The intention of bleeding can be answered only by performing it immediately, and in the most extensive manner; which the high state of inflammation, and the rapid progress of the disease, demand. Taking away only six or eight ounces of blood, because the patient may be faint, which is a symptom of the disease, is doing nothing towards the cure.—It is like Erasistratus, giving *three drops of wine* to a patient, justly ridiculed by Celsus*. Where bleeding is improper, no blood should be taken away;—where it is proper, that quantity cannot relieve;—and it is losing time which can never be regained.

Some practitioners who have not been witnesses of the good effects of bleeding, from never having taken away a sufficient quantity of blood, imagine that bleeding is not among the remedies for this disease. But this disease truly, is not one of those that yield to the loss of a few ounces of blood: for as Botallus observes of the pleurisy, peripneumony, and causus,—" num huic satis fuerit missio sanguinis unciarum decem aut duodecim ? non certe, sed librarum vel duarum vel etiam trium *."

---

* Lib. iv. cap. 11.

Bleeding, it is evident, must not be performed in any other stage of the disease, than the first, or inflamatory stage; but this has been injudiciously done, which has given rise to the notion, that a patient will seldom bear more than two bleedings.

Many practitioners have been deterred from bleeding their patients, from the depression of the pulse, and from the faintness which sometimes accompany the very first onset of this fever; but here the pulse always rises, and the faintness disappears, as the heart is relieved from its oppression, by the loss of blood.

Faintness, and depression of the pulse here, are not to be considered like those circumstances, where putrefaction has commenced, or where there has been long and fatiguing illness; they are symptoms here of *plethora*, the reverse of inanition; and bleeding is advised for such syncopes, by two of the greatest physicians the world has produced †.

---

* De Curatione per Sanguinis Missionem.

† ARETÆUS, de Cur. Acut. Morb. Lib. ii. cap. 3. and ALEXANDER of TRALLES, Lib. xii. cap. 3.

HIPPOCRATES directs,—“ in acutis morbis venam secabis, si morbus vehemens appareat, et qui ægrotant ætatis vigore fuerint, et virium robor ipsis adfuerit [*].”

Nor is fainting, during the operation, any reason for not repeating it, in the first stage of the fever; for I have often cured it by bleeding only. GALEN asserts the same [†]: and it has frequently happened in the West-Indies, that accidental bleeding from the orifice, when a patient has fallen asleep, to far greater quantities than have ever been directed to be taken away, has carried off the fever intirely: and the surprise on discovering a profusion of blood in the bed, has been changed to joy, for the alteration produced in the patient.

The efforts of nature would be oftener successful than they are, were not her powers totally overcome, in hot climates. Bleeding at the nose, in the first stage of this fever, has sometimes removed it; and it is as certain a solution of this fever, as it is of the causus in Europe [‡].

---

[*] De Acut. Morb. Victu, Sect. iv. art. 17.

[†] “ Curatur, in principio, sanguinis missione.” Introduct. seu Medic. cap 13.

[‡] “ Si sanguis è naribus fluxerit, solvitur affectio.” HIPPOCRAT. de Acut. Morb. Victu. Sect iv. art. 10.

In the early part of the disease, spontaneous hæmorrhage is always critical, and should never be suppressed; afterwards it is symptomatical, and if not stopped, the patient soon sinks under it.

Eruptions about the lips and nose; painful boils, or phlegmons on the body, which always suppurate unkindly; or an abscess forming, are also critical, and generally terminate the disease*

Sweating, in the first stage of the disease, is seldom critical; for, as SYDENHAM says, on a similar occasion, "non a prævia concoctione, sed a confuso particularum noxiarum motu, is eliceretur†".

Whenever sweats are critical, which may happen very early in the disease, if the patient has been well evacuated, they are accompanied with a cessation of vomiting, and a change of the appearance of the urine; the sweating then is to be assiduously promoted, and if preceded by a bleeding of the nose, it is a complete crisis *.

---

* "——ac si abscessus aliquis obortus fuerit." HIPPOCRAT. de Acut. Morb. Victu. Sect. [illegible] art. 2.

† P. 254.

The sickness of the stomach, and disagreeable taste in the mouth, indicate the quality, and not the quantity of the offending secretions. The vomiting is from irritation in the stomach, and not from plenitude. Therefore vomits are never to be given, though strongly advised by TOWNE:—no, not so much as warm water, recommended by HILLARY, for fear of exciting and stirring up that terrible operation, which, when once begun, no art can, sometimes, allay. Neither will the first part of that counsel authorise disturbing the stomach in this fever, which advises,—

"Si os amarum fuerit, vomere confert, et alvum subluere †;"—

For it will be found that the nausea and vomiting will not only remain,—

"Verum si ad hæc non solvatur . . . . purgato ‡,"

---

[*] "Si sudores supervenerint judicatorii legitimi, cum urinis albis crassisque, et lævibus sedimentis." HIPPOCRAT. de Acut. Morb. Victu. Sect. iv. art. 10.

[†] Ibid. art. 6.

[‡] Ibid. art. 7.

but the stomach will be so aggravated, that no purgative can be retained: it will be thrown up the instant it is taken, and the only means that can remove these symptoms will be defeated.

The aphorism, "incipientibus morbis, si quid movendum sit, move," is no more a reason for giving a vomit than a purge; and the operation must correspond with the nature of the disease.

How often have I seen, and lamented, the effects of emetic tartar, given to remove the supposed cause of the treacherous symptom of vomiting!—Even in slight degrees of fever in the West-Indies, in young plethoric subjects newly arrived, the stomach has been sometimes destroyed by it. Instead of removing the irritating sickness in this fever, or exciting a diaphoresis, a spasm has been produced in the stomach; incessant vomiting; inflammation; the vessels of the thorax and head have been stifled with blood; and the patient has vomited away his life.

Nature's index here is misconceived. It is for assistance that she makes these struggles, shewing that the part is suffering destruction

It is not an indication that her oppressions are leaving her in that manner: for who ever saw, or ever heard of a crisis from incessant vomiting?

When a sufficient quantity of blood has been taken away, which is never done, let the patient's habit be what it may, while the heat, reiterated exacerbations, flushings in the face, thirst, pains in the head, and burning in the eyes, remain,—the next step is to evacuate the contents of the bowels, and turn the humours downwards.

The ancients were afraid of purging in acute diseases; from which general principle, and the old maxim, that "concocted but not crude humours are to be evacuated," many fatal mistakes have happened in physic.

HIPPOCRATES advises the patient to be purged (with boiled ass's milk) in a causus where the bitterness in the mouth continues; and TRALLIAN recommends the cure to be begun with purging, where the fever arises from bile,—with these restrictions; that the matter is ready for expulsion, and the attack of the fever not violent. He says, he has known purging successful in acute fevers; but that care and circumspection are necessary in this practice:—and that plentiful bleeding only, is a more safe and efficacious remedy, with a cooling and diluting regimen.

This fever is generally preceded and accompanied by costiveness; from which, and the incessant vomiting, ending in blood, it seems as if the cœliac artery acted the part by the constitution, here, on the stomach, that the mesenteric arteries do on the intestines, in a dysentery.

But if large and repeated bleedings during the first two days, should not remove the thirst, pains, flushings, and heat in the eyes, and the state of the stomach should be such as to reject every thing that is taken, so that there is no chance of procuring evacuation by stool; the patient should have repeated purgative glysters, and be put into a tepid bath.

"Lavandi sunt qui fervida et perardenti febri laborant, in domo potissimum, ubi solium habeatur tepente aqua plenum, ut totum ægri corpus undiquaque ab aqua operiatur *."

---

* TRALLIANUS, de Causo.

The bath should be composed of a weak decoction of chamomile flowers, in which a little nitre may be dissolved, and some vinegar added.

This will often remove every symptom at once; and dispose the patient to a diaphoresis, which must be promoted until a sufficient quantity of some purgative medicine can be taken, so as to make an effectual operation downwards.

There is seldom a necessity to repeat the bath, as the strictures and tension generally yield on the first immersion. The patient should not remain long in the bath, nor should it be deferred until late in the disease, for it can be of no use when the stomach is destroyed.

To assuage the vehemence of the thirst attending a causus, it was the custom of the ancients to give the juice of cooling vegetables, and fruits, and large draughts of cold water, and acidulated drinks; and to apply cold, herbaceous, and acid cataplasms to the stomach; and after Gᴀʟᴇɴ, even to put the patient into a cold bath.

"Qui citra tumorem aliquem inflammatum, aut erysipelatum ægrotant, ubi concoctionis signa apparuerint in urinis. Quod siquis juvenis sit carnosus, tempore æstatis, et constitutione calida ac sicca, febre in vigore existente, et concoctione in urinis apparente citra visceris alicujus inflammationem, et in lavacrum frigidæ natatorium seipsum injiciat, atque natet, sudores utique commoverit; si vero etiam ad frigidæ balneum assuetus fuerit, valde confidente hoc auxilio utatur. Quibusdam enim statim venter biliosa egessit *."

The bold and decisive practice of Paul Ægineta in the causus, conveys an adequate idea that the ancients thought this was a disease to be *extinguished* at once: but if the means he pursued were equal to that intent, in the European, it is not in the Tropical causus, without bleeding.

"Ex duobus alterum fieri necesse est, si ardens febris perfectè solvi debet, aut ut biliosi humores *excernantur*, aut *extinguantur*. Excernuntur igitur per sudores, aut vomitum, aut infernam alvum. Extinguuntur per frigidæ potum, per quem nos omnes ardentes febres curavimus †."

---

* Aetius, a Galeno, Tetr. ii. serm. 1. cap. 78.

† De Re Medica, Lib. ii. cap. 30.

GALEN, from whom P. ÆGINETA has taken this doctrine, cured all his patients, after the first stage of the disease, with cold water; and goes so far as to say, he never lost one, where cold water was given in a proper manner*.

But in giving cold water in the causus, none of the ancients, except CELSUS, has observed sufficient practical precision. TRALLIAN says, he gave it only in the true causus, but not in the spurious causus. AETIUS says, cold applications, and cold things, should not be used but in the height of the exacerbations, lest they should act as repellents, and shut up the inward heat; and that when any doubt remains concerning using cold water, at first, the chill should be taken off.

CELSUS, with his usual accuracy, says, cold water should not be given before the fourth day, when the fever is at its height; then it should be drunk in great quantities, to cool the stomach and præcordia, and to procure vomiting, where it is necessary; after this, the patient is to be well covered, that he may sleep; by which means a profuse sweat will be raised, which, he says, is an immediate relief. But it is not to be given unless there be great thirst, and heat, and never when there are any pains or swelling about the præcordia, or any complaint in the lungs, or fauces, or an ulcer, or faintness, or diarrhœa, or cough *.

---

* Com. iv. in lib. HIPP. de Acut. Morb. Victu, sect. iv. art. 12.

Giving large draughts of cold water in the causus, to procure vomiting or sweating, after the manner of the ancients, is still practised in Italy, as I have often seen; where this fever is a common attendant on the heat of summer. But they wait before they give it, until nature has in some measure conquered the disease. ERASTUS says, this was the practice in his time.

If cold water be used in our *Endemial Causus*, all the restrictions of CELSUS and AETIUS are necessary to be observed. But the misfortune here is, that cold water is improper in the beginning of the disease, and our causus is too rapid in its termination, to admit of any delay, or interval, that is not filled up with medicine. Cold water cannot be given at the same time the patient is under the operation of cathartics; and from the first moment of the disease to the last, cathartics must be frequently administered. Our causus does not give us time to solace patients with grateful things; and to use cold water as an evacuant, would be risking the loss of time for an insufficient, or a doubtful remedy; as we must not look forward to a fourteen days termination.

---

* Lib. iii. cap. 7.

The same objections operate against acids and fruits; and though lemonade, oranges, water-melons, and granadillos, are extremely cooling and grateful, they interfere with operation of purgatives, disorder the stomach when used at the same time, and cause them to be rejected.

Vitriolic acid should never be given; all acids are astringent, but this is particularly so: they contract the fibres of the stomach, and prevent purgatives from passing onwards through the intestines. Besides, they destroy the effect of neutral saline purgative medicines. Lemon-juice and salt of wormwood, given in an effervescent state, is a proper auxiliary and febrifuge. But the acid and alkaline, should be duly proportioned to the exact point of neutrality, and sufficiently diluted with water.

Soft, smooth drinks, free from any stimulating tendency, such as barley-water, always answer best for common drink, and are no impediment in the way of medicine.

Glysters are to be frequently given in the beginning of the disease, particularly where the patient is costive, and to precede the use of cathartics, and assist their operation.

The purging medicine to be used in the yellow fever is the *tartarum vitriolatum chrystallisatum* or *sal polychrestus,* dissolved in equal parts of simple cinnamon and common water; or in simple cinnamon water alone. It must be given in small doses, every hour, until it operates; and the patient is to dilute copiously while it operates, with very weak chicken-broth. The quantity of the salt is four drams, to six or eight ounces of water (as much as the water will dissolve); and the dose of it may be two table-spoonfuls. In defect of this medicine, soluble tartar, or sal catharticus amarus, or manna and cream of tartar, must be used. But let me caution practitioners against adding emetic tartar, in order to quicken the operation of these medicines; which, however useful it may often be in bilious diseases, will be fatal in this.

Purging generally completes the suppression of the fever, and carries off the vomiting; but it must be continued while the stools remain bilious, or fœtid; otherwise the fever will rise, and the vomiting return.

In case the fever still continues, the stomach settled, and the bowels well evacuated, recourse must be had to sudorifics.—Repeated doses of *James's* powder, effervescent draughts, and plentifully diluting with barley-water, or balm, or mint tea, generally soon remove it.

An intermission being procured, bark, in substance, is immediately to be given, and repeated every hour, in dram doses, if the stomach will bear it, until twelve drams have been taken; which is generally a sufficient security against the progress of the disease. But it must still be continued, at longer intervals, for many days; interposing mild cathartics, such as an infusion of rhubarb and tamarinds, with, or without, a small quantity of sal polychrest, or by keeping the body from a costive state, by glysters.

Hippocrates, who seldom suppressed diseases, or took them intirely out of the hands of nature, in the manner P. Ægineta treated the causus, apprehended a relapse, or some troublesome complaint after a disease, where all the circumstances had not appeared, which were supposed necessary to constitute a perfect crisis.

He says, of what GALEN calls the *genuine* causus[*], that unless a solution happen by bleeding from the nose, or by sweats, with white thick sedimentitious urine, or by an abscess, a relapse will follow; or pains in the back, or legs, with thick expectoration, if the patient recover: and that in the *spurious* causus[†], which is attended with a coldness of the extremities, but not with a black tongue, a crisis never happens without some of these, or other determinate symptoms, having first taken place[‡].

But the ancients had not the Peruvian bark; which, if good, and given in a proper quantity during a clear intermission, though none of their critical symptoms shall have happened, modern practitioners consider their patient in perfect security.

---

[*] "Rarissimum est per abscessum judicari causum." GALEN. Com. iv. in lib. HIPP. de Acut. Morb. Vict. art. 11.

[†] "Solvantur per abscessus magis, quam per excretiones, quæ ex pituita putrescente oriuntur febres." GALEN. Com. iv. in lib. HIPP. de Acut. Morb. Vict. art. 15.

[‡] "Causus hic, nisi sanguis è naribus fluxerit, aut circa collum abscessus, aut crurum dolor oboriatur, et æger sputa crassa expuerit (hæc autem suppressa alvo contingunt) aut coxam dolor, aut pudendi livor, non judicatur. Testiculus quoque intensus, judicatorius existit." De Acut. Morb. Victu, Sect. iv. art. 15.

In the second stage, or *metaptosis* of this fever, which I believe will seldom happen where the preceding directions have been faithfully pursued; we must draw a distinct line or boundary in the very beginning of it, and put a final period to bleeding. In this alarming state, all the skill and power of physic must be summoned up, and quickly too, to oppose the various breaches which the disease is now making, for the entrance of death.

The strength now begins to fail; the pulse is sinking; the suffusion of yellowness is perceived in the eyes, neck and breast; the vomiting incessant, and the stomach rejects every thing that is swallowed. A coldness here, not succeeded by sweat, or bilious discharges, is almost a certain mortal symptom.

In this state nothing but purging can remove the vomiting, and save the patient's life. Here the corruption of the humours begins, and the stools are acrid, corrosive, and fœtid to an extraordinary degree.

The misfortune here is, that the stomach retaining nothing without great difficulty, opposes all our attempts. The vitriolated tartar, or sal polychrest, is a nauseous medicine; but there is no other proper medicine of which a small quantity will purge; which is the objection against tamarinds, cream of tartar, and manna. Nor is there any other, that I have ever found, equally cobling and attenuating. It must be given; and though part of it will be returned, yet some of it will remain; and by repeating a very small quantity every hour, stools will in time be procured, and generally urine, plentifully. If the patient have five or six stools, the vomiting will cease. He must dilute with weak chicken-broth.

Glysters may assist, with warm fomentations frequently applied to the region of the præcordia, which sometimes bring out a crop of acrid eruptions about the pit of the stomach, on which the vomiting generally ceases; but in case these attempts fail, the patient should be put into a tepid bath, and have a blister applied between his shoulders, or to the inside of his thighs, or, what is more effectual, to the region of the stomach; and a diaphoretic treatment should be adopted, with *James's* powder, in order to relieve the internal irritation by revulsion, and enable the stomach to bear purgatives, which alone can carry off the offending humours, and remove that perversion, as it were, of the peristaltic motion, which is the ungovernable circumstance, and by its continuance, the most certainly mortal symptom of this fever.

It is in vain to think of bark, and antiseptics, though the approach of sphacelation be evident. It is in vain to harrass the miserable patient with vitriolic acid, and a multitude of nauseous and tormenting drugs. If stools can be procured, and the bowels kept constantly loose, so that the acrid and putrid colluvies are carried off, as fast as they are secreted from the diseased mass, that the stomach may be preserved, and able to retain bark, the disease may be conquered: if not, the patient will.

I have heard of very large quantities of calomel being used, with the intention of removing the obstinate costiveness in this disease; but what I have remarked on another occasion, concerning the excessive use of violent remedies*, is applicable here.

Where a safe increase, of the ordinary dose of any medicine, does not produce its usual and natural effects, the conclusion is, that such a medicine is not suitable to the disease, or to the patient:—and here, instead of overcoming the inactive, or perverted state of the intestines, the patient's life is endangered, and perhaps destroyed.—If the latter do not happen, the constitution seldom recovers the shock.

---

* Page 283.

Under these melancholy and desperate circumstances, I have often used the glass of antimony, as I did in the dysentery *: but in administering this austere medicine, great thought and prudence are required, lest it be done in an untimely, and improper manner.—Justified by necessity, an experienced physician will sometimes derive the most gratifying result, from this practice.

As to what is called fever, there is nothing, beyond the first stage of the disease, which deserves that name. Therefore, after the first stage, bark is always to be given, when the stomach will bear it. The worst evil, that generally attends giving bark here a little too early, is oppression and load at the stomach; which if glysters do not remove, the purgative solution, or a watery infusion of

---

* See pages 250. 272, 273, 274, 275.

rhubarb, will; or the uniting some purgative medicine with the bark.

Sometimes, soon after the first attack of the fever, an abatement of every symptom is obtained; and those who are not well acquainted with the pulse, and what extensive evacuations this fever demands, conclude that a remission, or an intermission, or a solution of the fever, is decided. But when this happens before the third day, a strict attention to the pulse and the excretions will discover the deception; and shew, by their disagreement with those symptoms which appear favourable, that they appear so without a proper cause, and cannot be lasting.

They who unfortunately make any dependance here, desist from farther evacuations, and proceed to giving bark, and cordial nourishment. Every person about the patient is filled with flattering hopes of his recovery. But the evacuations have been discontinued too soon, and have not been sufficient to extinguish intirely the inflammatory disposition of the disease;—which now aggravated, breaks out, and rages with redoubled violence, and hurries the patient into the second stage of the disease, and then soon out of the world.

This circumstance of the endemial causus, I believe, has never been noticed before. They who have mistaken the *Bilious Remittent*, for the causus, consequently speak of remissions, which do not happen in this fever.

Some of the ancients justly referred all continued fevers, to some species of intermittent.

Aetius says, a causus which exacerbates every day, is a species of quotidian; that which exacerbates every other day, of a tertian, &c. and the difference only is, that the causus never comes on with rigor, nor intermits:—but when it exacerbates every other day, there is diminution of fever, like a remission *.

These remarks are of infinite importance in hot climates, and if rightly understood, point out the different times for evacuations, or for using stimulants and blisters to advantage, and for making exertions for intermissions, where spontaneous crises are not to be expected: and though what Celsus observes in fevers † often happens in hot climates, that the accessions are so confounded, that neither their coming on, nor their duration, can be correctly ascertained,

---

* Tetrab. ii. serm. 1. cap. 77.

† Lib. iii. cap. 3.

tained, yet it seldom happens in continued fevers, that one, and oftener two exacerbations, are not perceived within the nyctheme-ron.

Great caution is to be observed, when the yellowness which is critical, discovered in the eyes, on the third and fourth day, and a general suffusion over the whole body, that the same treatment is not pursued which is necessary where that appearance is symptomatical.

Yet I do not see how TOWNE could say, that, "the regular crisis of this fever generally discovers itself by a suffusion of bile all over the surface of the whole body about the third day*." Nor why HILLARY should say, "this total yellowness is so far from being an encouraging prognostic, that it most commonly, on the contrary, proves a mortal symptom†." Opposite as these two opinions are, they are neither right, as they stand thus unqualified; for truth lies between them.

A yellow suffusion may be either critical, or symptomatical. Critical, as TOWNE supposes, but it must be when there is a tranquil ceſſation, without languor, of all the other symptoms, with warm perspiration:—and symptomatical, as HILLARY supposes, when accompanied with lassitude, nausea, or vomiting, colliquative sweats, and sunk pulse.

---

* Page 23. † Page 149.

The case, in my opinion, stands exactly thus; notwithstanding HILLARY's idea that the yellowness cannot be critical, should it appear before the eighth or ninth day. Perhaps HILLARY had in contemplation what has been often quoted, and very properly, in European climates, as a general axiom *.

But HILLARY must often have had opportunities, which perhaps he had forgotten, to know, that his contradiction of TOWNE was ill-founded.

Great disputes have arisen in this part of the disease, concerning the application of blisters. TOWNE is strenuous in opinion for them; and HILLARY as strenuous against them.

TOWNE says, "blisters are also of great moment and efficacy at this juncture, and are therefore not to be forborne any longer. The bile being now afloat, is to be discharged by every

---

* "Quibus per febres ante septimum diem aurigines oboriuntur, malum." HIPPOCRAT. Aphor. lxii. sect. 4.

out-let, *qua data porta ruit.* It is almost incredible what large quantities of this juice may be evacuated by the external use of cantharides: for their salts entering now, and mixing with the mass of blood, dissolve and attenuate the viscid particles, prevent the growing lentor, and by their caustic quality, open the mouths of the vessels for their expulsion. Another great benefit we gain from blisters, is the tendency they have to the bladder, by which means another plentiful discharge of the redundant bile is obtained; for by the precipitating, if I may use the expression, those particles to the urinary organs, they throw off abundance of them by that secretion. I can affirm from experience, that when they have been applied before it is too late, a coma, the deadly system of this distemper, has very rarely ensued *."

HILLARY observes that the unreasonable fondness which people in Barbadoes have for blisters, gave him too often an opportunity of seeing their bad effects, especially in this fever. He says, "I have observed that the coma, tremors, subsultus tendinum, the coldness of the extreme parts, and the low pulse (though this sometimes has been rendered a little quicker, but not more full), have not only not been relieved by their application, but have been increased thereby, and the hæmorrhage which usually attends the fever, has been hastened on, or if come on before, it has been increased on their application; and I have seen a vesicatory which I ordered to be taken off, as I usually do as soon as I come, in this fever, that the part where it was laid was turned black, and perfectly sphacelated, and if the spine, and ends of the ribs had not hindered, a large square passage into the thorax would have been opened, if the patient had lived a few hours after it; but he died two hours after I came; and the reflection, that I have never ordered any vesicatories to be applied in this fever, and have always strictly forbidden their application in it, I must say, gives me great satisfaction *."

---

* Page 26.

It is hardly possible to conceive how these opinions, like the former, so directly opposite, and yet both so systematically erroneous, should have escaped two men who had many opportunities of deciding with more precision on the effects of blisters. But false theory persuaded one; and false theory deterred the other.

---

* Page 170.

If blisters had that effect on the body which either of these physicians assert, they would certainly be improper in this fever. Their "salts entering and mixing with the mass of blood, and dissolving and attenuating its viscid particles," would be a bad argument for using them in this state of the fever; nor would the quantity of bile evacuated by them, be of much signification, if there were no better reasons. Neither do they "cause the part on which they are laid to sphacelate and turn black, and open passages into the thorax," which HILLARY ought to have known was only an index of the general mortified condition of the patient's whole body, pointing directly to death; which blisters could neither retard, nor accelerate.

People in the West-Indies are, as HILLARY observes, remarkably fond of applying blisters in every disorder.

Blisters are found to be a safe and powerful remedy. Natives, and long residents in the West-Indies, are seldom disturbed by inflammatory diseases; and blisters can scarcely ever be applied amiss. They form a drain for the acrid serum of the blood, and give a stimulus to the languid vessels, which often keep up disorders from debility, obstruction, and irritability.

If bleeding, purging, baths, and diaphoretics, do not remove the fever in its first stage: —

If purging, baths, diaphoretics, and blisters, do not remove it in the second stage: —

If the vomiting cannot be suppressed, and bark retained: —

The last stage of the disease appears with its direful vomiting; which at first has generally the appearances of the grounds of coffee: then that of a slate-colour; and then dark, thick, and grumous. The interior surfaces of the body are all oozing out blood into their cavities.—Every excretion is corrupted blood.

I have seen people recover after the vomiting has resembled coffee-grounds, when any purgative medicine united with a decoction of bark, could be made to pass downwards, that the unnatural actions of the stomach were respited; and the state of that organ, and the bowels, so relieved, that bark could be taken with any effect, from the power of the internal absorbents being restored; which had been subverted by incessant vomiting. For in this state of the vomiting, the rupture of the interior vessels is only partial, and the demolition of the stomach and intestinal tube only commencing; and though the prospect is very gloomy, there are still some rays of hope.

But when this state has continued for many hours, and the internal hæmorrhage becomes general, the stomach and bowels have lost all power of restricting the blood-vessels; the bond of union between the solids and fluids is dissolved, and the vital principle is too much sunk ever to be raised. Then black gangrenous, mortified blood, is discharged upwards and downwards, and there are no hopes of life *.

The application of bark and vinegar in baths, fomentations, and cataplasms; sinapisms and acrid cataplasms to the feet; camphire, snake-rook, and cordial antiseptics, have been sometimes of service, even here, as many practitioners have said: and therefore, though I am of a different opinion, they ought not to be omitted.

I should not have thought it necessary to mention even the name of opium in this fever, had

---

* "Quibus per morbos acutos . . . . . . bilis atra, aut velut sanguis niger subierit, ii postridie moriuntur." HIPPOCRAT. Aphor. xxiii. sect. 4.

not HILLARY advised it, and others rashly followed his advice in giving it, to check the vomiting in the beginning of the disease.

In a fever so highly inflammatory, with the stomach in a constant state of inflammation, and the contents of the whole alimentary canal so hot and acrid, it must be, what I believe it often has been, a fatal medicine.

TRALLIAN is of opinion, where there is great watchfulness in the causus, that opiates should be given; "quippe somnum inducunt, et febrium vehementiam ardoremque obtundunt;" but our causus admits of no such remedy, as an anti-emetic, and soporifics are injurious.

In regard to regimen, during the first three or four days,—thin, soft, cooling drinks, emulsions, and chicken broth, besides the medicines, will be as much as the stomach can sustain, even were any thing else necessary. After the crisis, or after the first stage of the disease, panada, gruel, and sago, are the most proper articles for nourishment; with the addition of a spoonful of Madeira wine, where the patient is weak, languid, and exhausted. Wine cherishes the stomach, and acts as a cordial, mixed with these nourishments; but if it be given any other way, it affects the head, and heats the patient. Wine, where it is necessary, should be used in the same manner in all fevers.

The last patient I saw, in the last stage of the *Yellow Fever*, was captain *Mawhood* of the 85th regiment, at Port Royal, in Jamaica, on the 24th of September, 1780. It was on the fourth day of his illness. He had been in the island seven weeks.

I arrived at the lodgings of this much-esteemed young man, about four hours before his death. When I entered the room, he was vomiting a black, muddy, cruor; and was bleeding at the nose. A bloody ichor was oozing from the corners of his eyes, and from his mouth and gums. His face was besmeared with blood; and with the dulness of his eyes, it presented a most distressing contrast to his natural visage. His abdomen was swelled, and inflated prodigiously. His body was all over of a deep yellow, interspersed with livid spots. His hands and feet were of a livid hue. Every part of him was cold, excepting about his heart. He had a deep, strong, hiccup, but neither delirium nor coma: and was, at my first seeing him, as I thought, in his perfect senses. He looked at the changed appearance of his skin, and expressed, though he could not speak, by his sad countenance, that he knew life was soon to yield up her citadel, now abandoning the rest of his body. Exhausted with vomiting, he at last was suffocated with the blood he was endeavouring to bring up, and expired.

ON THE

TETANUS,

OR

LOCKED-JAW.

WHETHER the excess of credulity, or downright infidelity, be most derogatory from science, is a question in phyſic, difficult, I believe, for medical casuists themselves to determine.

Exempt from the prejudice of extremes, a prudent physician will take a middle ground, and arm himself with a certain portion of pyrrhonism upon most occasions: — and particularly in applying the theories, and doctrines of those, who have furnished the world with histories of spasmodical affections. *Sic veris falsa remiscent.*

The Greek physicians have distinguished general, or universal rigid spasm (Σπασμος, *Convulsio, Contractio, Distentio Nervorum)* in which the muscles of the neck were affected, by the name of Τετανος; which was subdivided, according to the parts farther affected, into Οπισθοτονος, and Εμπροσθοτονος. **Galen** every where makes the same distinction[*].

When the neck, body, arms, and legs were straight, rigid, and inflexible, with the mouth fastened, that state was called a *Tetanos.*

When the neck and thorax were thrust forward, and the body curved and bent backward, with the hands clinched, and the arms and legs rigid, contracted, and drawn backward, that was called an *Opisthotonos.*

When the head was bowed forward, and the chin fixed to the sternum, with the thorax depressed, the spine of the neck and thorax gibbous, the hips turned outward, the hands clinched, and the legs extended, that was called an *Emprosthotonos.*

The general name, however, was *Tetanos*; which **Celsus** calls *Rigor Nervorum*[†], and subdivides it according to the Greeks[‡]. We have adopted the word *Tetanus* from the Latin writers, in our language; but more commonly that of the *Locked-Jaw*.

---

[*] Introductio seu Medicus, cap. 13.

[†] Lib. II. cap. 1.

[‡] "Modo caput scapulis, modo mentum pectori adnectit, modo rectam & immobilem cervicem intendit." Lib. iv. cap. 3.

All nations have preserved the ancient division of the tetanus into three species; which have been handed down from generation to generation, and admitted into the rank of diseases, without any examination, or suspicion that the subject was questionable.

Notwithstanding these divisions, descriptive of three distinct species of original spasm, I think, supposing the three affections really existed, that they ought not to be considered as separate species, but as different degrees of universal spasm, or tetanus; — the extreme degree of which constitutes the opisthotonus.

Hillary reverses the fact, when he says, "the tetany may be esteemed only a greater and more universal extended degree of the opisthotonos."

There can be no such thing as what Sylvius calls *convulsio semi-universalis*, to which he attributes the opisthotonus, and emprosthotonus [*].

---

[*] Prax. Med. Lib. ii. cap. 3.

There are partial spasms, and cramps, every person knows; and particular muscles may be affected, as in the *Spasmus Cynicus*, *Torture*, *Risus Sardonicus*, *Trismus*, and *Strabismus*.

Hysterical people are subject to spasms in every muscle of the body. The mouth, as in the locked-jaw, is often affected; deglutition impeded; and a variety of fixed positions, and involuntary actions, are produced, whose descriptions are infinite.

Willis instances a curious case, in which every part of a woman's body was convulsed, or rendered stiff and rigid, by turns. Sometimes her head was turned to the right side, then to the left, then backward, as in the opisthononus, then forward, as in the emprosthotonus. She was always relieved by the fumes of tobacco, blown up her nostrils; but the spasms always returned in some place or other, soon after that remedy was desisted from *.

This is something like what Lind relates to have happened, in a case which he calls an opisthotonus, at Haslar hospital. He says, "it was remarkable, that an application of opium and camphire to the feet, instantly removed the spasm; which, upon taking off the application, immediately returned, with its former violence. An effect which was several times produced by the repeated application of these medicines *."

---

* De Motu Musculari.

Such a simple affection, or partial rigidity of the muscles of the neck, was the case of a patient mentioned by FORRESTUS, which he calls an emprosthotonus;—for, he says the woman "came to him" for advice: and as he gave her only an insignificant ointment, to apply to the parts, and says the case did not prove fatal, it could not be a very serious disorder †.

I believe there is no other emprosthotonus than these kinds of partial nervous affections; and what has been defined as such, as a general muscular spasmodic disease, in my opinion, never had existence; for of nearly an hundred people that I have seen perish by the tetanus, from wounds and accidents in the West-Indies, I never saw any thing like what is called an emprosthotonus. I have also inquired among the oldest practitioners there, and no one ever saw it. Nor do I believe that

---

* Page 128.

† Lib. x. obs. 113.

any practical writer of reputation pretends to have seen it. I observed, though I did not mention it in the first edition of this book, that LIND says, in a long course of practice in England, he has seen the emprosthotonus *; and I have been told that a decided case of it has come within the knowledge of another person †. Should my infidelity remain, it extends not to impeach the veracity of any man. I know, as I am the only person who has expunged the name of *Emprosthotonus* from the nosological inventory, that neither my authority, nor what I have already said, would be sufficient to disprove the existence of the disease, were it possible it could exist, according to the laws of physiology.—That it cannot, I will demonstrate presently.

It is singular that ETMULLER should insist that HIPPOCRATES means the emprosthotonus ‡, in the 35th aphorism of the 4th section, where he says, "In a fever where there is a sudden perversion of the neck, with difficulty of swallowing, without any tumor, it is fatal."

Others insist that the emprosthotonus is meant where HIPPOCRATES speaks of *Tetani* about the loins [*]; but that cannot be, because HIPPOCRATES says, those convulsions proceeding from atrabilarious humours, causing obstructions, are cured by bleeding. Nor does the subsequent passage confirm that to be his meaning there [†].

---

* Page 281.

† Critical Review, for February 1788.

‡ De Spirit. Animal. Vitioso Motu. cap. 9.

He says, in one place, that there are two or three sorts of *Tetani* [‡], but he describes only the tetanus and opisthotonus; and in another place he says, that there are three sorts of *Tetani* [§], but here he is more explicit; and after describing the tetanus and opisthotonus, he says the *other Tetanus* [‖] is less fatal than the former: and that in this, the whole body is convulsed, but that it sometimes affects only some particular part; and that the patient walks about at first, then takes to his bed; and when the pains and spasms abate, he rises, and perhaps walks up and down for a few days; and is afterwards attacked with the same pains, and also with a difficulty in swallowing his food, and perhaps suffocation. But the methods used in the other *Tetani*, and a glyster of cremor of boiled ptisan and honey, speedily cure this disease.

---

[*] Τετανοι δε οσφυος. Lib. de Acutorum Morborum Victu, Sect. iv. art. 73.

[†] Οκοταν δε απο των τενοντων σφοδρως εμπροσθεν αντισπωνται, &c. Ibid. Sect. iv. art. 74.

[‡] Τετανοι δυ, η τρεις. Lib. de Dieb. Judicat. cap. 3.

[§] Τετανοι τρεις. Lib. de Internis Affect. cap. 54.

[‖] Αλλος τετανος. Ibid. cap. 56.

It is unnecessary to give a minute detail of the symptoms of the tetanus; the direful train of evils already mentioned sufficiently characterize it, and are well known to practitioners.

There have been many incorrect, deficient, and superfluous accounts of this disease; but to the honour of the great father of physic, there has never been one so distinct and plain, as that which he has given us, in his third book *De Morbis;* and also in his book *De Diebus Judicatoriis*, which he repeats in his book *De Internis Affectionibus.*

Many writers have given descriptions that have more the air of curiosity than of science. They have drawn the disease with some minute lines which seldom or never appear, and have omitted some of its real pathognomonical strong lineaments. That is not the case with HIPPOCRATES.

It seems to me, that CHALMERS, of South Carolina, had never read any thing more of what HIPPOCRATES says of this disease, than the three cases of opisthotonus, in the fifth book of Epidemics. Otherwise it is impossible he should have said, that there has not been "any thing like a full description given of the disease, by any ancient or modern author;" and "that the few symptoms HIPPOCRATES recounts, do not shew themselves with us *."

So far is this remark from being just, that I never saw the disease without every symptom HIPPOCRATES recounts in the third book *De Morbis:* nay, such are his accuracy and discrimination, that no one but himself, among the ancients, has noticed the principal pathognomonic, which, besides the bending of the body, distinguishes the opisthotonus from the tetanus: and the moderns who have noticed it, have not made the distinction. This is,—on the return of the spasm, after a temporary remission, in the opisthotonus, the patient is so strongly convulsed, by the sudden contraction of all the muscles at once, that he springs up in the bed, and without great care will be forced intirely out of it, on the floor.

On visiting people in this disorder, I have often found them upon the ground, when their attendants have neglected them.

---

[*] London Medical Observations and Enquiries, vol. i. p. 89.

The least touch of the body, or any sudden emotion, or noise, or surprise, will bring on the spasms when they have remitted. Once, as I entered the hut of a negro belonging to Mr. Thomas *Bond*, in Kingston, in Jamaica, the man had got up in one of these remissions, in an opisthotonus, and was standing on the floor, leaning against his bed. On my speaking to him, he was suddenly seized with a violent contraction of all the muscles, which curved his body like a bow, and he sprang up from the ground, and pitched backwards, with his head foremost, nearly three yards from the place where he stood, among some earthen pots that were in a corner of his hut. By the fall he cut his head very much, and divided the temporal artery: he died within two hours. It was the third day of the disease; the cause of which was not ascertained.

ARETÆUS and CÆLIUS AURELIANUS, who have given the most minute descriptions of the disease, have both omitted this circumstance: and CÆLIUS AURELIANUS only quotes HIPPOCRATES for the clinching of the hand in the opisthotonus, as if he had never seen it himself. Though this, in which HIPPOCRATES says, the thumb is often locked in the hand by the fingers, is another almost invariable sign in the opisthotonus, yet CHALMERS says, " the wrists and fingers seem not to be affected."

There are here, as in other diseases, different symptoms in different habits. But when the patient is not plethoric, nor of an inflammatory tendency, though breathing be interrupted during the spasms, the pulse, in general, is nearly as regular as in health; and the patient remains in his perfect senses to the last: when he is demolished by catalysis, or cut off, by a great convulsion; which at once subverts both the vital and animal functions.

The reasons for my asserting that the opisthotonus is the extreme degree of tetanus, are founded on the same principles, which support my opinion, that there is no such disease as an *Emprosthotonus,* as a muscular and peculiar degree of universal spasm.

When the fibres of all the muscles of the body are put to their extreme exertion, the cervical, dorsal, and posterior muscles, being more in quantity, have too much power to be resisted by the anterior muscles, and the body is bent backwards; as the flexors of the hands are too powerful for the extensors, and therefore the hands are clinched.

All the anterior muscles are exerted to their utmost in the opisthotonus; but those that make the most resistance against their posterior antagonists, are the *mastoidei* of the neck, and the *recti* of the abdomen. These are swelled up, and are as hard to the feel, and as rigid, as pieces of wood.

This refutes SYLVIUS's notion of *semi-universal* spasm, as far as relates to the anterior and posterior parts of the body. For if the nerves endue the muscles with energy, the anterior muscles can never be universally affected without the posterior muscles. It is otherwise in respect to the lateral muscles; the sides may be affected separately, from the distribution of the nerves, as we observe in the hemiplegia.

MORGAGNI instances a case of tetanus, which on the morning of the patient's death, the fifth day, ceased from being universal, and the spasms and rigidity continued only on one side of him; constituting what is called the *pleurothotonus*. He mentions this, because MERCURIALIS asserts, that a *lateral* tetanus cannot happen, and only the three species before mentioned *.

---

* Letter x. article 2.

I am of the same opinion as MERCURIALIS, as far as relates to original *pleurothotoni;* for nothing is proved by MORGAGNI's case, but that the universal paralysis which generally precedes death in the tetanus, here commenced in an hemiplegia.

All writers mention the pathognomonic pain, and spasm under the sternum; and HIPPOCRATES himself mentions violent pains, in general, which attend this disease. It seems conformable to reason, that it should never be otherwise; but it is otherwise frequently. I have known people in the tetanus with the sweat running off them, from the agonizing pulling of the muscles, who have nevertheless told me, though they felt a distress which they could not describe, yet they could not say it was actual pain. Partial spasm, every person who has been waked in the night, with the cramp in the calf of the leg, knows to be severe pain; but general spasm is not so always.

It is evident what dependance the muscles have on the nerves, being destitute of action, deprived of them. But, perhaps HALLER's opinion is better supported in this disease, than in any instance he has given, himself: and that there are great mistakes concerning the seat, and effects of sensibility, and irritability.

HALLER places sensibility in nervous, and irritability in muscular, parts.

I have lost many patients in the *Locked-Jaw* after amputations; and never found leaving out the nerves, or whether ligatures were made, or not, caused the smallest difference in the event; nor were any security against the *Locked-Jaw*, nor diminished the symptomatic fever.

How far the sensibility of the nerves, or the irritability of the muscles, are concerned in the tetanus, or how the muscles should act in sympathy, without the nerves appearing to be any way affected, is, I believe, in as much obscurity, as GALEN's "principalis animæ vis."

The *Locked-Jaw* appears to be a disease entirely of irritability. Negroes, who are most subject to it, whatever the cause may be, are void of sensibility to a surprising degree. They are not subject to nervous diseases. They sleep sound in every disease; nor does any mental disturbance ever keep them awake. They bear chirurgical operations much better than white people: and what would be the cause of insupportable pain to a white man, a Negro would almost disregard. I have amputated the legs of many Negroes, who have held the upper part of the limb themselves.

The Algerines and Moroccans are as much distinguished for privation of sensibility, as Negroes. This, writers of romance attribute to heroism, and greatness of soul.

Mr. James *Matra,* now the English consul at Morocco, in a letter I received from him, dated at Tangiers, on the 20th of December 1787, corroborates the fact. He says, "the usual punishment of the Moroccans, is cutting off the hands and feet. The operation is performed with a knife, frequently by a butcher, and always in a very slovenly manner. He takes the hand or foot in one hand, and hacks at the joint till it is off. The stump is immediately dipped in a kettle of hot pitch, and never has any other dressing; yet it is but very rarely that any of them die;—and the stump looks as well when healed, as if the operation had been performed by the most skilful surgeon. I have seen several undergo this punishment; they went through the operation, with an indifference, that is astonishing; for by their countenance you would think they were shaking hands with the executioner."

Susceptibility of the tetanus, whether original or symptomatic, does not depend on age, or sex; neither is it confined to the human species. Every species of animal is subject to it. I have seen many horses die of it. It arises in animals, from many of the same causes that produce it in human beings.

Of the obvious causes of the tetanus, in the human race, bruises, wounds, particularly of the toes and fingers, fractures, dislocations, miscarriage, worms, amputations, trepanning, obstructed perspiration, and sleeping in wet clothes, or in the cold night air, are the principal.

Painful injuries are not so often the cause of the tetanus, as those which are more trivial. I have known many instances where it has been caused by a slight lacerated wound on a finger, or toe; but never one from the severest flogging, in military punishment. No pain, however excruciating, excited on the surface of the body, from the great sensibility of the skin, is capable of producing it. I have seen it caused by muscular irritation, where no considerable branch of a nerve was near the part.

HIPPOCRATES says, all spasms are caused either by repletion, or inanition *.

As to the cure of the different degrees of tetanus, making allowance for habit, age, and constitution, they are, as CELSUS observes, all to be treated in the same manner. And this treatment stands just where it did in the time of HIPPOCRATES. All that has been written about it since, amounts to nothing but unavailing words; and those who fancy they have discovered a better method of treating this disease than may be collected from HIPPOCRATES, ARETÆUS, CELSUS, and ÆGINETA, have deceived themselves, and all who have believed in them.

If it be urged that the application of mercurial frictions, is an invention of the moderns, in this disease, I answer, it is my opinion, that mercury used in the tetanus, has killed more people than it has cured. And farther, that I suspect, those who have recovered when this remedy has been used, would have recovered without it. For many people have been

---

* Aphor. xxxix. sect. 6.

attacked by the tetanus, in the West-Indies, under a course of mercury.

Hippocrates says, that diseases from repletion must be cured by evacuations; and diseases from inanition, by repletion *.

Galen says, that spasms from inanition are incurable: but when they arise from plethora, and inflammation, they are cured by evacuations †. In other respects he mentions nothing of consequence, besides the practice of Hippocrates ‡.

All the patients Hippocrates appears to have had under his care in the opisthotonus, from wounds, died. And so, I believe, have all the patients that every other person has had; when the disease was complete, and caused by a wound.

The four cases of opisthotonus which Hippocrates relates in his fifth and seventh books of Epidemics, were from external injuries. One was from a slight wound below the neck behind;

---

* Aphor. xxii. sect. 2.

† Methodi Medendi, Lib. xii. cap. 8, et de Tremore, Palpitatione, Convulsione, et Rigore, cap. 8.

‡ Introduct. seu Medic. cap. 13.

hind; this patient died on the second day of the disease. Another was from a contusion and fracture of the fore-finger, and its metacarpal bone; inflammation, fever, and mortification came on; purging abated, some of the symptoms, and part of the finger fell off; after the seventh day the wound discharged a thin acrid sanies; the patient was seized on the tenth day, and sweated much, and died on the third day of the disease. Another was from a luxation, or contusion, of his great toe; this patient died on the third day of the disease [*]. The other was from applying some corroding medicine to a clean ulcer, on the leg, near the ancle, by the tendon; the day is not mentioned when this patient died.

He says in his Aphorisms, that spasm happening after a wound is mortal [†]; and that those who are seized with a tetanus die within four days; or if they survive the fourth day they recover [‡]. CELSUS is of the same opinion [§]. But HIPPOCRATES, in another place, extends the period of danger to the third, fifth, seventh, or fourteenth day [‖].

---

[*] I have said *luxation* or *contusion*, because this case is twice related, with some variation. In the fifth book the text is *στρεμμα*, and in the seventh book it is *τυμμα*.

[†] Aphor. ii. sect. 5.

[‡] Aphor. vi. sect. 5.

[§] Lib. iv. cap. 3.

[‖] De Morbis, Lib. iii.

Many of the wounded men in the French squadrons, in the American war, in the East and West-Indies, died of the *Locked-Jaw.* It was remarked by the surgeons in *M. Daché's* fleet, that almost all the wounded men who were sent on shore after the action, died of the *Locked-Jaw;* and but very few of those who remained on board the ships were attacked by it.

I never found, after a wound, or a chirurgical operation, in the West-Indies, that there was any time, until the patient was entirely well, exempted him from the insult of this disease.

In 1772 I trepanned the skull of a young man, of the name of *Sheppard,* for a fracture, at Hope Estate, near Kingston in Jamaica; the wound went on well, and every symptom was favourable. He was seized with the tetanus thirty days after the operation, and died on the third day.

I never saved one patient who had a complete tetanus after an operation; but have prevented many, I believe, by giving bark, as soon as possible, after every operation, with anodynes at night, and attending to the state of the bowels. Bleeding often, purging occasionally, and an extremely low diet, is the best security in fractured skulls, and injuries of the head. *Sheppard's* tetanus was occasioned by his imprudence. He walked out of the house, ate some salted herring, and drank punch, on the day previous to his being attacked.

On the 12th of March, 1779, I was called to a man named *Mooshel*, at *Daniel Gully's*, a shipwright, in Kingston, in Jamaica, whose skull was fractured by a brick falling on his head. The scalp was not lacerated, but there was, besides a stupor and vomiting, a softness and swelling at the part, that determined me to expose the cranium to sight; and to avoid, as I hoped, the error of the good, as well as great HIPPOCRATES *;—for the confession of which mistake, his candour has been so much admired by all succeeding ages †. I made a section of considerable extent, to embrace, as I thought, all the injury; that I might not be deceived by the sutures, nor obliged to make a second cutting.

---

* Epidemiorum, Lib. v. art. 22.

† "A suturis se deceptum esse HIPPOCRATES memoriæ tradidit, more scilicet magnorum virorum, et fiduciam magnarum rerum habentium. Nam levia ingenia, quia nihil habent, nihil sibi detrahunt. Magno ingenio, multaque, nihilominus habituro, convenit etiam simplex veri erroris confessio; precipueque in eo ministerio, quod utilitatis causa posteris traditur: ne qui decipiantur eadem ratione, qua quis ante deceptus est." CELSUS, Lib. viii. cap. 4.

ting. But to my great surprise, on removing what I had designed, I discovered such a fracture as I never saw before, nor since. I took away eight pieces of broken bone, one of which was driven two inches into the brain. A dram weight of the brain came out with the piece of bone, and a portion of the dura mater. The fracture was round the junction of the sagittal and coronal sutures, and took in part of the frontal, and both parietal bones. Pieces of each of these bones were taken away.

On the 15th I traced a long crack cross the bone, from the sagittal suture, and found it necessary to extend the removal of the scalp, by another section; and to apply the trepan at the extremity of the fissure, to elevate the depression, and remove what bone was required; that the extent of the internal injury might be ascertained, and the brain relieved. I took away from the upper angle of the left parietal bone only, as much, when put to the former pieces of the same bone, as made a triangular form, each side of which measured four inches.

The cause of this extraordinary mischief, was not from the violence by which the brick fell, for it fell but a little distance from his head:—but it was owing to the extraordinary thinness of the skull bone, which scarcely exceeded the thickness of a line. The union of the tables was such, that the diploe was scarcely discernible. Several medical people, to whom I shewed the bones, and to whom this remarkable case was known, confessed they had never seen any thing like the thinness of the bone, except in children.

The operation from relieving the brain, and from the great loss of blood, carried off the stupor and vomiting; which was kept under, and other untoward symptoms prevented, by glysters, and purging the patient often. He was not plethoric; and from having lost much blood at first, I did not find it necessary to bleed him afterwards, in the course of the cure.

A few days after the operation he became tetanic. I despaired of my patient, and believing no medicine could save him, I gave him none, except twenty-five drops of laudanum every night. This alarming appearance went off of itself in a few days, and a hemiplegia succeeded, that continued the same, through the whole of the cure; which was eight months in completing. I saw the man two years afterwards, and he had regained much of the use of his paralytic side. I attribute this man's escape to the effusion of blood in the operation, and to the extraordinary diligence and tenderness with which my pupil, Mr. Lewis *Hallam*, attended him afterwards, and dressed the wound.

Though I have but little expectation that there ever will be discovered any specifical, and certain method of curing the tetanus, I do not pretend to say a tetanus will not yield to some kind of treatment. A slight one, from cold and obstructed perspiration, will. Sometimes even to a warm bath, and electricity: and often to diaphoretics with anodynes. When, as HIPPOCRATES says, the patient survives the fourth, fifth, seventh, or fourteenth day, the disease, I believe, is almost always curable;—and I wonder writers should lay so much stress, and think so much, of having cured a patient who has laboured under this disease for a fortnight, three weeks, or a month; knowing, as every person must who has practised long in the West-Indies, that a mortal tetanus is seldom or never a tedious one; and believing, that any tetanus exceeding the time before mentioned, will abate spontaneously, without any medicine at all.

In 1776, I cured a captain *Thompson* (from America), in Kingston, in Jamaica, of a tetanus, only by putting him into a warm bath, three times a day; and giving him small doses (for that part of the world) of laudanum, and antimonial wine. This medicine kept up a great perspiration, caused by the bath; which I judged to be the most proper method of treating a tetanus as his was, from obstructed perspiration, from the night air. But he had the disease ten days. The next patient I treated in the same manner died.

The same apparent success and disappointment have been experienced from great quantities of bark and wine: theriaca and wine: mercurial frictions: musk, camphire, and assafœtida.—Of saccharum saturni, which I have heard commended in this disease, I can only say, that I have never known it produce either good or harm. A man, to my knowledge, took six drams of the sugar of lead in three days, in a *Locked-Jaw,* without producing any effect whatever.

I have frequently known the same thing from opium. The stomach will sometimes bear a dram of opium every two or three hours, for three days together, without procuring sleep, and without the diminution, and often without the alteration of any symptom. But here I must remark, that I never found any use from a large quantity of opium, where a small quantity had not first produced some evidently good effect *.

Practitioners, in countries where the *Locked-Jaw* is a common disease, have seldom found the same remedy to succeed twice, successively. Chagrined with continual disappointment, they fly to every thing that offers but the smallest hope, and are induced to try the powers of medicine, in doses, that might surprise people practising in temperate climes: where, this strong rigidity of the muscles, which, if bent by force, would cause instant death, is seldom seen.

This has been done so often, with such extent of posological experience, that they read without improvement, those instructions, that are given for the treatment of the tetanus, which are fabricated in countries where the disease is almost unknown.

Lind says, "In a case of opisthotonus at Haslar hospital, the extractum thebaicum was given, to the quantity of a scruple, in less than twenty-four hours;" and that opium should be given at the same time mercurial friction and the warm bath are used, "to procure sleep*." —The first remark would have been more coincident with the practice of those who see the disease almost every day, if the quantity of opium had been an ounce, instead of a scruple; and the latter, though the same error is countenanced by ÆGINETA, with their observations, if he had said, that no quantity of opium whatever will, with any certainty, procure sleep in an opisthotonus:—and that there are many doubts whether opium, given alone, has ever been of any utility.

---

* See pages 283. 464.

Prevention is better than cure; and if, where the cure of diseases is probable, and even certain, this precept is never violated without sorrow, the misery of neglecting it here, falls so heavily on the unhappy patient, that no skill or attention afterwards will be found equal to overtake, and make atonement for, the omission.

When a wound or contusion has been received, in the fingers or toes in particular, or when an amputation, or any other chirurgical operation has been performed, the symptomatic fever, and irritation of the wound, are to be removed as soon as possible, by aperients, or glysters, with cooling and diluting medicines, anodynes, and a careful regimen. The patient at the same time is to be kept in a cool room; and the wound to be expeditiously brought to a state of good digestion.

---

* Pages 288, 289.

If the wound be a small one, a poultice frequently renewed, over any soft and light dressing, is generally the best application, at first. If it be a large one, or from an amputation, the best dressing, until the swelling and inflammation are gone, is olive oil on pledgets of lint, with a warm digestive plaster on tow, over all. Warm fomentations are to be used before the dressings; which, after the first dressing, must never be seldomer than once, and very often twice a day: and the wound is to be as little as possible exposed to the air.

When the symptomatic fever has abated, bark is to be immediately given, and often repeated, and an anodyne every night; and let the appearance of the wound be what it may, bark should always be given occasionally until the patient is well: for I have often known, when the wound has been nearly healed, where the discharge has been always good, and no symptom of irritation appearing, that the *Locked-Jaw* has suddenly, and unexpectedly, come on, and destroyed the patient.

If the wound be in the hand or foot, from a splinter of wood, or a thorn, or a nail, or a piece of glass, an hot steam should be applied to the part, at each dressing, which should be a poultice. Dilatation is sometimes necessary, where, in a deep wound, with a small orifice, there is much heat, and pain, and no disposition towards digestion; or making a transverse incision down through a wound, where it is jagged, and the fibres and vessels partially divided;—or if on a finger or a toe, amputating the part intirely, on the first appearance of any tetanic symptom;—and if a thin acrid sanies be discharged, warm oil of turpentine, and hot digestives should be applied; and bark be given in large doses, often, with wine, where the constitution is sunk, and the patient weak, or aged. These are the best prophylactics against the *Locked-Jaw.*—Opiates externally applied, are not of the smallest utility, either in the prevention, or cure of a tetanus.

Hippocrates says, that a fever, with white thick urine, is a critical solution of an opisthotonus*; and that a fever coming on where there is a spasm or tetanus, removes the disease *. Practice confirms this to be true; and I have observed that an heat in the skin is always a favourable sign, especially if preceded by rigor.

---

* Coac. Prænot. 362.

Hippocrates, in order to raise an artificial fever, advises pouring a great quantity of cold water upon the patient, and that, he says, recals the native heat; and heat cures the disease. The patient is to be covered lightly afterwards, and be kept cool, as he advises in another place, where this process is again mentioned †.

But he gives a judicious caution, and Galen, in his comment upon the passage, does the same; that this practice must not be used but in summer time (this applies particularly to European climates); nor unless the patient be young, and of a full habit of body, and without an ulcer ‡. For it is evident, if the patient should be old, infirm, and weak, and have any wound, that applying cold water, would rather extinguish, than increase the natural heat.

---

* Aphor. lvii. sect. 4.

† De Morbis, Lib. iii. cap. 12.

‡ Aphor. xxi. sect. 5.

He advises also, as a remedy, pepper and black hellebore, to be taken in hot fat fowl broth; and strong sternutatories to be used; and the patient to be fomented; or warm and pinguious liquids to be applied in bladders all over his body; and he is to be well rubbed with a great quantity of warm oil, particularly on the parts most affected*.

He recommends, as another remedy, warm fomentations and unctuous frictions made, at some little distance from a fire; and warm things applied afterwards; and a fotus made of wormwood, or bay-leaves, or henbane seed, and frankincense, macerated in white wine, in an earthen pot, with an equal quantity of oil put to it; which being made hot, the head and body is to be well anointed with it. Afterwards the patient is to be covered, that he may sweat profusely; and to drink, if he can be made to swallow, otherwise it is to be put into his nostrils, a mixture of warm honey and water; and also plentifully of good white wine. These things are to be repeated every day †.

He does not mention cupping; but ARETÆUS, CELSUS, AETIUS, ÆGINETA, and most other ancient writers, as well as the Arabians, advise it; some with scarifications, and some without; upon the neck, spine, breast, and parts most affected. P. Ægineta advises the parts to be covered with wool, wetted with oil; and where the disease has been of long duration, to put the patient into a tub of oil twice a day, but says he is not to remain long in it, as it will weaken him.

---

* De Morbis, Lib. iii. cap. 12.

† De Internis Affectionibus, Lib. cap. 54.

The remedy that has been found during the last fifty years, between the tropics, to succeed oftenest in this deplorable disease, is the cold water process of Hippocrates. But this remedy has been so imprudently and indiscriminately used at Cayenne, Martinique, St. Domingue, and in the English Colonies, that it has fallen into disrepute; as many have been killed suddenly by it. I suppose the want of success, attending the improper application of cold water, made Paul Ægineta so illiberal against this doctrine of Hippocrates *.

Barrere, a French physician, who practised at Cayenne, about the year 1740, speaks of

---

* "At vero frigidæ affusionem (velut Hippocrates dicit) quum maxime temeraria sit, et propterea à posterioribus damnata, etiam nos reprobamus."

De Re Medica, Lib. iii. cap. 20.

of the application of cold water with the utmost confidence.

"La précaution la plus sûre, est d'arroser les malades plusieurs fois par jour avec de l'eau la plus fraîche qu'on puisse trouver, & sur tout dès le moment que l'on s'apperçoit que les enfans ne peuvent téter qu'avec peine, & que leur mâchoire commence à se serrer. Il faut réiterer ces aspersions, jusques à ce que ces facheux accidens soient dissipés, & que les parties du corps ayent repris leur premiere soûplesse. Il est nécessaire de soûtenir les forces du malade, surtout des grands personnes, par de bons bouillons, qu il faut donner peu & souvent, dans l'intervale desquels on doit leur faire prendre quelques cueillerées de vin."

With this method, and purgatives, he says he had many instances of success.—He says it is a common practice there among the negroes. "Les négresses, aujourd'hui, dès qu'elles s'apperçoivent que leurs enfans sont menacés de la maladie, elles les baignent, sans autre façon, & les arrosent avec des grandes *Couyes* (espece de grosse écueller, fruit de Calebassier) pleins d'eau *."

---

* Nouvelle Relation de la France Equinoxiale, p. 73, & 74.

We find also physicians in the beginning of the fifteenth century following this doctrine, and curing their patients by it.

Valescus de Taranta says, he cured a man of the tetanus in the following manner.—The patient was held upright by four men, and had twenty large pitchers of cold water poured on him, down his neck and all over his body and limbs; he was then immediately placed before a fire, and an hour and half afterwards his neck, back, legs, and arms were well rubbed with the *unguent. martiat. dialtheæ, Agrippæ, et ol. castorei.*—He gave him nothing internally but chicken broth*.

From much unsuccessful practice, and often reflecting on this Hippocratic doctrine, and Galen's judicious, and Paulus's injudicious comment on it, I discovered two modes of applying cold water equally advantageous, though the ends to be obtained are widely different; and also where the dangers of this *anceps auxilium* lie, and how they are to be avoided.

The first is,—supposing the patient a proper subject, to plunge him into the sea; or into a river; or into a large tub of water; where he is to remain for a few minutes, keeping his head carefully supported, that he may not be suffocated in struggling from the spasms. He is then to be taken out, after having fatigued himself a little, and to be wiped dry, and put into a warm bed; and if a warm sweat break out, it is to be promoted by antimonial wine and laudanum; diluting as much as possible with warm chicken broth. But if a warm sweat be not raised by the first immersion, a second is to be made two hours afterwards, and if that should not produce the effect, sweating is to be no farther urged; nor is a sweat to be continued, where it does not relieve; nor is a second immersion to be made, when the patient's skin remains cold after the first; and if his skin should be hot without sweating, recourse must be had to the second process.

---

* Lib. i. cap. 27, de Convulsione.

The second is,—to use the cold-water immersion as before; or to place the patient naked under a pump; or in a current of water; where he is to have all the force of the water directed on his neck, back, and body, for a few minutes; or to lay him on a floor, where, from two, to eight or ten pailfuls of the coldest water are to be thrown, one after another, sudden on him. After either of these applications of water, he is to be wiped dry, and to be wrapped round with a warm sheet, without any other covering, and to be put into a moderately cool room. This operation is to be repeated every three or four hours, while it continues to moderate the spasms, or to raise, and keep up an heat on the surface of the body;—the heat is to be promoted with wine, volatiles, antispasmodics, and cordials. But this process is not to be repeated longer than the skin continues sufficiently warm; for if the cold sweats incident to the tetanus continue, or increase, the patient will be destroyed by being exposed to the cold, after the water. But the medicines are to be continued, and bark is also to be given. Bark is in any case always to be given, on the decline of the spasms. Here another caution is likewise necessary, which is, if a warm and profuse sweat should break out, at any time, the affusion of water must not be farther repeated, because it will check the sweat, and destroy the patient; which, if encouraged, as in the first process, will cure him.

Some physicians in the French colonies, immerge the patient in a cold bath by surprise, and there let him struggle until he has nearly exhausted himself; which is frequently attended with success. Others make deep scarifications, or cauterise the neck and back; which, with glysters, emetics, purgatives, cordials, and diaphoretics, they say, sometimes succeed.

DESPORTES says, he cured a negro woman, by making a seton in her neck, with an hot needle. But there are so many cures related by different writers, which have been performed by trivial means, that one cannot conclude the disease to be otherwise than spurious.

BONTIUS and PISO have not mentioned any thing to be relied on in this disease. The former pursued the old practice of dry cupping the spine, shoulders, and breast; anointing with warm oils, glysters, baths, sal prunellæ, and opiates[*]: and the latter depended on bleeding, acrid glysters, sudorifics, baths, fumigations, frictions, anointing the spine with oils, and the juice of tobacco, and covering the patient, to promote sweating[†].

The Spanish physicians in the colonies bleed their patients when plethoric, in both arms and legs; then vomit them, and afterwards give theriaca in wine. The next day they make scarifications down from the head to the legs, in the posterior part of the body; and irritate the parts every two hours, with roasted *coratoe (American aloe)*, which they peel, that the juice may come out freely, and then rub the scarified parts with it.

---

[*] De Spasmo.

[†] De Spasmo.

The negroes generally apply frictions of warm olive oil, rum and soap, oil of amber, &c. with their hands heated over some coals; and then cover the patient, and sweat him. They are encouraged in this method, by the ease that is sometimes produced while they apply their frictions, which is done with some violence. But the spasms soon return, and they find their labour is in vain. They also give internally strong vervain tea, or the juice of the herb, and other inefficacious vegetable drinks.

Hillary's idea of the intentions of cure in this disease, was to "remove the cause, and then the effects *." In this no person, I believe,

---

* "First, to remove and take away the irritating cause which affects the nerves; and then to diminish and take off the stimulation, and irritation of the nerves. And, secondly, to relax the rigid tenseness and contraction of the nerves, tendons, and muscles, of the parts affected." Hillary, page 231.

lieve, will differ from HILLARY. DE HAEN had much the same sentiments.—But how are these intentions to be answered?

It is a great misfortune that we know so little of this disease, more than its effects, that a complete rationale, hitherto unattempted, cannot be established for the treatment of it *. There is no disease in which the ancients differ so much as in this. Nothing can exceed the contradiction that is found between HIPPOCRA-

---

* In 1777, a very industrious writer at *Vienna* collected what had been written on the tetanus, and intitled his work "*Commentarius de Tetano*, plus quam ducentis clarissimorum medicorum observationibus, nec non omnibus hactenus cognitis adversus *Tetanum* remediis instructus."—TRNKA.—He adopts the opinion that AIMAR, a French Surgeon, first discovered the use of mercurial frictions, by accident, in the locked-jaw. But though the author has left the subject where he found it, and perhaps has laboured more in vain than any man ever did, yet there is one thought in his book that makes some atonement for his loss of time, and may a little relax the muscles of those who read it. He supposes the tetanus gave rise to the poetic fiction of people being metamorphosed into stone. So that his suggestion whether it accord with the sentiments of physicians or not, may have great value among antiquaries; who may determine that he has detected the fallacy of OVID's petrifications; and that *Aglaurus* on account of her sister's happy marriage, *Anaxarete* at the sight of the corps of *Iphis*, and *Niobe* for the loss of her children, were not converted into stone, but actually died of the *Locked-Jaw*.

TES and ÆGINETA: ARETÆUS and AETIUS. Nor is there any disease where the moderns have added so little, to the little the ancients have left them. Nothing can be collected, consistent with rational theory, from all the practical remarks that have appeared. Mankind nevertheless have been benefited by many publications. The good resulting from the occurrences of unsuccessful practice, teaches what should be avoided, if it cannot what should be embraced.

But it is a dreadful reflection on the state of a profession, that ingenuity and plausibility, without the smallest pretence from practice and observation, shall erect doctrines on the sanction of a name, and intrude on the world their insubstantial conjectures, and betray the inexperienced to a reliance on their authority. Useful means are thus often neglected, and the life of a fellow-creature is sacrificed, on the barbarous altars of delusive speculation.

In the course of the various books I have read on this subject, I cannot omit mentioning one published in 1776, at Paris. It is intitled, *Projet d'Instruction sur une Maladie Convulsive, fréquente dans les Colonies de l'Amérique, connue sous le nom de* TETANOS, *demandé par le Ministre de* *de la Marine, à la Société Royale de Médecine.*

I shall select but one passage from this performance, in consequence of a very extraordinary remark of CULLEN's, which will be sufficient to shew how far the author's knowledge was the result of practice and observation, in those parts of the world, where the disease he treats of makes its ravages.

CULLEN says, in his First Lines, Vol. III. page 173, "I have been further informed, that the tetanus, in all its different degrees, has been cured by giving internally the *pisselæum Barbadense*, or, as it is vulgarly called, *Barbadoes tar*. I think it proper to take notice of this, here, although I am not exactly informed what quantities of this medicine are to be given, or in what circumstances of the disease it is most properly to be employed."

The French author, in consequence of this, says, page, 93, "Nous apprenons encore de M. CULLEN, qu'on a employé contre cette maladie *une plante** qui croît dans les Barbades &

---

* This "*plant*," as the author calls it, and which, he says "grows in Barbadoes, and some other American islands, and

dans quelques autres iles de l'Amérique, & qui est indiquée par *les botanistes*, sous le nom de *pisselæum Barbadense;* on assure que son usage intérieur a suffi pour opérer quelques guérisons; mais *le praticien*, d'après lequel nous en parlons, ne connoît ces succès que par le rapport qui lui en a été fait; *il ignore la dose* & *les préparations*, de ce remede, ainsi que *les circonstances de la maladie* où il faut l'employer: aussi suspend-il son jugement. Nous ne pouvons *qu'imiter sa prudence*, & attendre que l'expérience nous ait donné à ce sujet des connoissances ultérieures & certaines."

If, after such information, I may presume to offer mine, it is, that Barbadoes tar produces no benefit whatever in the tetanus. And farther, that even externally applied, the proper way of using it, it is of no service *. It is some-

---

and is distinguished by *botanists* under the name of *pisselæum Barbadense*," happens to be an oily, bituminous fluid, issuing from some hills in the island of Barbadoes. It is, in general, of a dirty black colour, inclining to a green. The method of procuring it is to dig an hole, or trench, in, or very near the place where it oozes out of the earth; this, by degrees, fills with water, having a thick film, or cream, of this liquid bitumen swimming upon the surface, whence it is skimmed off, and preserved in earthern jars, or other vessels.

* CANVANE used it, mixed with castor oil, in frictions to the neck and spine, in the tetanus, and he supposed with success.

sometimes serviceable in embrocations, in old spasmodic contractions, and pains in the joints.

That Barbadoes tar ought to be useful in the tetanus, is, in theory, reasonable enough; and so ought musk, castor, camphire, and asafœtida, "quæ vicino malo sæpe sucurrerint;" but in practice they are not, and are as little to be depended on alone, as *arnicæ flores* *, *phosphorus urinæ* †, *fimus equinus* ‡, or *goats urine and water*, the vaunted remedy of MARCELLUS ‖.—"Nec post rationem, medicinam esse inventam, sed post inventam medicinam, rationem esse quæsitam §."

From what I have seen of the tetanus, I make the following conclusions.

That it is a spasm seated only in the muscles, subservient to the animal functions:—

That whether original, or symptomatical, it is caused by irritation:—

---

success. He is another who considered ten or twelve grains of opium, given in twenty hours, an immoderate quantity.

* COLLIN. † BOENNECKEN.

‡ PARLY. DE HAREN. ‖ De Medicam. cap. 18.

§ CELSUS

That the position of the body depends on a greater quantity of muscular fibres, contracting against a less quantity—

That the curative indications are either,—

I. To resolve partial irritation into universal irritation, by *metastasis*.

OR,

II. To remove irritation from the parts affected, by *derivation*.

OR,

III. To take away the irritability of the parts affected, by *sedatives*.

OR,

IV. To lessen the power of the parts affected, by inducing an *atony*.

The first is effected by a judicious application, and sometimes a repetition of cold baths; which, in imitation of nature, brings on an artificial intermittent (which, according to HIPPOCRATES, and experience, is a solution of any prior disease in the body *), beginning with rigor,

---

* Epidem. Lib. vi. sect. 6. art. 7.

gor, succeeded by heat;—or by wine, cordials, and such means as cause a fever without a rigor.—The second is effected by bleeding or sweating, or vomiting or purging.—The third has been attempted by opiates, and calmants.—The fourth by warm baths and relaxants.

Judgment is required to decide where either method is to be used; depending on the age and habit of body of the patient; and on the cause of the disease, and on its symptoms. They are not to be confounded together, but are to be used separately; and where some almost immediate benefit is not obtained, the inference is, that that process is not suitable to the state of the patient, and recourse should be had to one of the others.

The tetanus is endemial among children in many places between the tropics; but by no means, as some have supposed, depending on situations near the sea, or exposed to winds *. When it invades them it is generally on or before the eighth or ninth, and seldom after the twelfth or fourteenth day, from their birth. Aetius knew but little of this disease, when he

---

* Bajon.

said, "neque autem infantibus, neque senibus convulsio fit tetanica*;" nor was ARETÆUS consistent with his usual precision, when he asserted, "pueri assiduè hoc morbo vexantur, sed non admodum pereunt—juvenes rarius quam pueri id patiuntur, sed crebrius intereunt—viri minime—at senes inter omnes magis et eo vitio corripiuntur et eo necantur†."

The French term the tetanus in children, *Mal de Máchoire.* The English call it the *Jaw-falling.* The reason for both these appellations is, that the lower jaw is the first part attacked, and often the only seat of the rigidity. Besides, the lower jaw sometimes cannot be brought to join the upper jaw, and the mouth keeps rigidly open; as ARETÆUS (and he only) observes sometimes happens in the opisthotonus. It frequently ends in a paralysis of the muscles of the jaw, when the chin falls down; which the negroes tie up with bandages. This, by the ignorant, is taken for a dislocation. Not but that a dislocation of the jaw does also sometimes happen, and, like this, is a mortal symptom‡.

---

* Tetr. II. serm. ii. cap. 39.

† De Tetano, cap. 6.

‡ *Εν τοισι τετανοισι και οπισθοτονοισι γενυες λυομεναι, θανασιμον.* HIPPOCRAT. Coac. Prænot. N. 361.

Some nosologists *, I know not why, call the tetanus in children *Trismus Nascentium* :—which rendered in English, implies, *a grinding, or gnashing of the* TEETH *of new-born babes.*

The word Τρισμος, (from Τριζω, *Strideo*) imports *Stridor;* Πρισις, Βρυγμος;—and is never used but where a sound, or noise, is meant to be expressed. Besides, the *trismus* is a temporary and partial spasm of the jaw only; not, properly speaking, a disease of itself, but a symptom, attending many spasmodical affections. It is caused by the *pterigoid* muscles endeavouring to act, when the *temporal* and *masseter* muscles are contracted.

Negro children are chiefly the victims of this disease in the West-Indies. The infants of the poor and miserable inhabitants of *Vivarais,* in France, are subject to the *Sarrette;* and those of the Mediterranean islands, to a similar disease: both, in some circumstances, analogous to the tetanus. But the true tetanus among children, as well as all other tetani, are the genuine produce of warmer climates. It may occur in other places, but does not often. In Switzerland, Tirol, Piedmont, and Savoy, many children perish by convulsions; but not of the tetanic kind. Observing what HOFER has written *, and others have erroneously propagated, I ascertained this fact while I was in those countries; and had the corroborating testimony of doctor MENGHIN at *Inspruck*, and doctor DAQUIN at *Chambery:* both skilful physicians, of long practice, and men of the greatest candour and judgement.

---

* CULLEN, &c.

The cause of the tetanus among children in the West-Indies, is generally attributed either to the intemperance of the mother during pregnancy; or to the irritation of the navel, after birth; or to the smoke of the lying-in room, or to the dampness of its situation; or to the carelessly letting in cold air upon the child. Some people even attribute it to the wickedness of the mother, to avoid the trouble of bringing up the child.—The negroes often charge it to the malice of *Obi*, or witchcraft. Speculators have searched for other causes in the most remote corners of nature.

That negroes, who never see this accident happen to white children, nor to any others that have proper care taken of them, if born healthy, should attribute it to witchcraft, is very natural; but that physicians should be ignorant of the cause, and that the effects should so often be permitted to happen, is extraordinary and unnatural.

---

* Act. Helvetic. Vol. I. pag. 64.

Some of the above causes, doubtless, occasionally take place. But the more common are, the ignorance and inexperience of the mother, and the want of attention, or necessaries, to keep the child dry and clean; for it often remains wrapped, or rather girted up, in the same wet rags for days together; and whenever there is any discharge, or drivelling from the mouth, that also is suffered to remain, chilling the jaws and throat with cold moisture. In these things, and in not sufficiently purging the child, to carry off the meconium, and first milk, and from the heat and closeness of the huts, the mischief originates.

To prevent the evil in the West-Indies, which is most often seen where the mothers of the children are very young, or very poor, or very worthless, such women, at the time of their lying-in, should not be committed to their own management; nor be allowed to remain in their own houses, solely under the care of an old negro woman midwife, who is generally superannuated.

Upon every plantation there should be a convenient and spacious lying-in room; and, for many reasons, it should be as near as possible to the overseer's house. No fire should be suffered to be made in it, unless there were a properly-constructed chimney, to convey away the smoke. But it would still be an advantage to have a small anterior room to have the fire-place in, that the bed-room might not be stifled with heat, in which negroes so much delight. Here the woman should be delivered, and remain under the direction of the medical person of the estate, and the indulgence of the overseer; until all the danger of both mother and child is over, and until the mother is able to take care of her child. But when, as it often happens, that the mother is an improper person to trust with the child, it should be taken from her, and be given to a careful nurse to bring up.

The deaths occasioned by this disease in the West-Indies, constitute a greater drawback upon the population of the negroes, than can easily be imagined; as the number that perish by it annually is scarcely to be credited. This drain of native inhabitants is far more detrimental to estates in the course of time, than all other casualties put together.

In the French colonies, if DAZILLE, a physician, whom I have before mentioned, and who lived there, is to be credited, the depopulation of negroes arises from a want of sufficient food, from bad cloathing, and from working them beyond their strength:—" *une nourriture insuffisante, le défaut de vêtements, et un travail au-dessus leurs forces, font périr le produit annuel de la génération des negres, et l'objet de l'importation*[*].

These things happily do not exist, I know, in the English colonies; and I have many doubts, from what I have seen, of their existence in those of the French. An individual may be absurd or wicked, but a whole nation cannot. The French are not less renowned for mildness than for liberality; and if such a dereliction of virtue were not repugnant to self-interest, there would be but few among them found to make it from avarice.

---

[*] *Observations, &c. par* M. DAZILLE, *Médecin*, &c. published at Paris in 1776. This gentleman says, page 22, that in the French colony of Hispaniola, there have been for a certain number of years only about 300,000 negroes, though the annual import has been nearly 25,000: that there are in the isles of *France* and *Bourbon*, only 40,000, notwithstanding the import into those islands has been annually about 3000: and that the mortality in the most healthful colonies is nearly the same as in the most unhealthful, from the above causes which he assigns.

As the tetanus in children cannot be cured, though an accidental recovery sometimes happens, it is unnecessary to recite how often cold baths and other means have been tried to no purpose, which might have been successfully employed in its prevention.

I have given this part of the subject consideration, because it is a remediable evil. It is not a vain declamation against grievances that do not exist; or existing admit of no cure. This strikes not less forcibly at the interests of policy, than at the concerns of humanity: and I am satisfied that these remarks will be attended to in the French, as well as in the English colonies.

ON

CANCERS.

A CANCER is one of those calamities against which there is no prevention; the cause creating no suspicion until the effects are present. A physician would be thought to have wonderful sagacity, who could prognosticate what injury, or what habit of body, would generate a carcinomatous disease.

Cancers are of two sorts: schirrous, or occult; and ulcerated. There is also a minor species of cancer, called a cancerous ulcer.

Cancers are seldomer seen in the West-Indian islands, than on the neighbouring western continent of America. The disease which the Spaniards at *Quito* call *Mal del Valle* or *Vicho*, which is a gangrene in the rectum, and often succeeds fluxes, and sometimes attacks people while they are ill

with

with fevers, is unknown in the islands. So are cancers of the uterus, and an ulcerated cancer, called the *Bay-Sore.*

Cancers of the uterus, which are always lingering, excruciating, and fatal, are so common in the city of Lima, and its neighbourhood, that women suppose it contagious, even from sitting in a chair after an infected person.

The *Bay-Sore,* which is a true cancer, commencing with an ulcer, is endemic at the Bay of Honduras. It is frequently seen on the Musquito shore also, and along that part of the continent.

This disease is also fatal, if neglected. But being within the reach of medicine to remedy, that remedy is the object of the present discussion.

Every part of the face, body, and limbs, is subject to be the seat of this disease.

The cause of it is so little to be ascertained by any reference to the state of the habit of body, that it is generally supposed to arise from some external agent.—The Indians say, that it is produced by a large fly depositing its eggs in the flesh.

The method of curing this cancer is very simple, though painful. But from the experience I have had, I can venture to assert, that the same method will cure any external cancer whatever, that is curable, in any part of the world; where the application can be made in such a manner, that the disease and the medicine may be brought into contact.

The method is this.—Spread a plaster, of *diachylon with gum*, upon thin leather, the size of the cancer. Suppose the plaster to be as large as a crown-piece, or a Spanish dollar, sprinkle on it a scruple of *corrosive sublimate of mercury* finely powdered; and so in proportion to a larger, or smaller plaster. This plaster must be applied to the cancer, and remain on it forty-eight hours; but if there be any apprehension that it has not done its office in that time, it must remain longer. Then take it off, and apply a poultice of bread and milk, with a little olive-oil, which must be renewed frequently, until the cancer comes entirely out, by the roots as it were. The part is then to be dressed, digested, and cured as a common ulcer. A purge or two with calomel must precede the application. No other preparation is necessary, in habits otherwise healthy. But when the patient is gross, or in a bad state of body, as in all other cases, he must be properly prepared for the operation. Bark is sometimes necessary, to forward the digestion and cure.

This method was practised, to my knowledge, by a person who lived many years, and was in extensive practice, and in great reputation for curing cancers at the Bay of Honduras. It never failed him in many hundreds of cases. He there extracted one, which weighed eleven ounces, from the inside of a man's thigh; and completed the cure in four weeks.

It is surprising to see how entirely corrosive sublimate, thus applied, will separate the unsound from the sound parts; and let the figure of the cancer be what it may, and its ramifications ever so numerous, the whole diseased part, if within the reach of the application, will be detached, and come away all together; leaving the cavity clean, and frequently free from the smallest remains of diseased flesh.—This is extracting a cancer, and I believe there is no other way of curing any genuine cancer, except by extirpation with a knife.

Crab-Yaws, as they are called, which are the relics of the *Yaws*, in the feet, are extracted by the same application. There it is necessary, only to pare off the top of the *Yaw*, and then lay upon it a diachylon with gum-plaster sprinkled with the corrosive sublimate powdered, the size of the *Yaw*, and let it remain for two or three days.—On taking off the plaster, the *Yaw* generally comes out, like a plug; if not, it digests out in a few days, with common dressings, and the part soon gets well.

Cancerous detached and single glands, and tumours much diseased, but not ulcerated, may be extracted in the same manner. But should the tumour be deeply seated, before the application, the cuticle may be removed on the preceding day, by a blister, or by a slight rubbing with a caustic, to the extent and dimension intended to be acted on:—in superficial tumours this is not necessary. If the tumour be only ulcerated in the middle, it will be necessary to circumscribe the whole induration, and sometimes, though rarely, it may be necessary to put a little of the powdered sublimate round the circumference of the diseased tumour, when it begins to loosen, should any part adhere obstinately, to hasten its separation from the sound flesh.

Arsenic, a very ancient remedy in cancers, will not produce the salutary effects, obtained by corrosive sublimate. I have tried it by a variety of modes of application, in consequence of the reputation it has borne, in cancerous diseases *.

I have frequently found, in extirpating a cancerous or schirrous tumour in the breast, and other parts where there has been a chain, or knot of smaller indurations leading from it, that

---

* In an old medley of nostrums, printed in 1627, there is the following cure for cancers. It is curious. I give it in the words of the author; without any further observation, than that I believe it is the origin of all the English quackery on the subject. He says,—

"This precious medicine following, will bring forth a canker, and pluck it up by the roots, out of any sore where-ever it be, either in man or woman."

"Take *roseakger* (realger, or red arsnic) and make a powder thereof; then take barrow's or hog's grease, that is new and fresh (first melted and after cold), then mix the powder therewith very well; then put thereof upon a piece of white leather, which may cover the sore; then sprinkle on the said plaster, fine flower of pure wheat; then upon the same spread honey, and then upon the said honey woman's milk; and when all this is done, put the said plaster upon the sore, where the canker is, and put the under crust of a new white loaf upon the said plaster, and tie it fast upon the same, that it remove not; and in the morning thou shalt find the canker dead on the said plaster."

"This is most true. This I copied out of an old written book."

the application of this plaster to the principal seat of the disease, has destroyed the other swellings; partly from the adjacent inflammation, and partly, either from the mercury in the act of absorption, passing through these glands in following the course of the lymphatics, while penetrating the system, or from its peculiar influence on this series of vessels.

As a proof that corrosive sublimate thus applied, pervades the whole habit, the mouth has generally the mercurial taste and fœtor; and sometimes the salivary glands are considerably affected, and salivation is raised; particularly when the application is considerable, and made to the breast.

I was some time ago consulted by a person from Essex, who had cancerous tumours on his breast; connected by little indurated knots, with the axilla. I recommended the application here mentioned to be used, under the direction of his physician in the country; as I had often seen such diseases removed by it; and indeed then had, with a surgeon in town *, lately cured a gentlewoman, where the indurations extended to the axilla, in a similar manner:

---

* Mr. *Thomas Campbell*, a respectable surgeon in Princes-street; who, with me, about the same time, extracted a large cancerous tumour from a woman's breast, at Chelsea.

ner:—in which case, as soon as the inflammation caused by the plaster had subsided, the principal tumour in the breast extracted, and the wound began to digest, the smaller knots leading to the axilla, disappeared.—The person went home, and I saw no more of him. I was informed afterwards, that a London surgeon had extirpated, with the knife, the two principal tumours on his breast, to which I had advised the application to be made.—The man died.

I have heard, that in this instance, as in some others, my application was objected against on account of the disease extending, by the indurated lumps, to the axilla.—Here I must observe, the plaster has a decided superiority over the knife; for unless the real glands of the axilla are diseased, in which case the knife can be of no use, these knots, or adventitious glands, are always dispersed by the plaster.—Wiseman makes a discrimination, proper to be noticed here, as it seems to be entirely unknown, between—"the glandules which are naturally born with us, and those which do arise upon the occasions of disease*."

---

* Book iv. chap. 3.

In cancers, every thing depends on the mode of applying the sublimate as I have described.—Yet, besides the solubility of sublimate, there is a specifical difference between the corrosion of sublimate, and that of arsenic. Arsenic applied alone, or quickened with the addition of sublimate, to old ulcers, for example, to destroy fungous flesh, which in leprous and leucophlegmatic habits, is frequently so quick of growth, and so enormous in hot climates, that no other application, but the knife, is equal to its removal,—rots indiscriminately the sound and unsound flesh, wherever it comes in contact. Therefore great care is required in using it. I have known it, when injudiciously applied, to eat down to a large artery, and occasion the loss of a limb. Corrosive sublimate used to the same end, though an improper application, will not occasion the same mischief; for in these cases, though it may cause great inflammation, it is bounded in its corroding action by healthy flesh; or acts on it but slightly as a destroyer.

Arsenic has a tendency to deaden and destroy the functions of organised parts. Corrosive sublimate to inflame those parts, and increase the circulation of their contents.—Thus the irregular, and imperfect attachment of diseased glands, or any morbid body surrounded by healthy flesh, is broken, and the part itself expelled from its situation, by means imitative of those which nature always assumes, through the operation of locally-excited action *.

Practitioners have never known but two topical modes of treating inveterate cancers. One by amputation; the other by corrosion. The first is often impracticable, and the latter always dangerous.

Empirics have succeeded better. Their method is to extract them. I have seen many of these itinerants, in different countries, extract cancers with the greatest facility. And before I knew that the only application, however disguised, which could produce such a wonderful effect, was corrosive sublimate, I had tried every kind of mineral and vegetable preparation that could be thought of, without success.

A late very ingenious surgeon in London, Mr. *Justamond*, was mistaken in his theory of the effects of arsenic, as specifical in cancers. His conjectures, which he had adopted from others, that cancers are "produced from insects, or the germina of them, taken up from the air by the lymphatic vessels," as a mere hypothesis, were well supported: but when proof is required, the best arguments, alone, are invalid.

---

* Avicenna, copying Dioscorides, certainly gave *Arsenic* internally, for complaints in the lungs. He says, in

It has been suggested, and with reason, since the first edition of this book, that the application here recommended may be productive of mischief in the hands of the rash, and ignorant.

---

in Lib. ii. tract. 2. there are three sorts of *Arsenic;* white, yellow, and red. Of the last he says, "datur ad potandum, inflatis cum aumeli, et hydromelle; et assumitur, cum gumma pini, ad *Tussim antiquam, et sputum saniei et sanguinis:* et quandoque ponitur in pilulis, quæ sunt ad *Asthma.*"

Red arsenic, or realgar, or the sandarach of the Greek writers, is the mildest orpiment.

Dioscorides gave it mixed with hydromel in purulent spitting; with honey in hoarsenesses; and with resin in the asthma. In old inveterate coughs he used it mixed with resin, by way of fumigation. Περι Σανδαραχης. Κ. ρκϛ.

Cheyne says, in his "Method of Cure in Diseases of the Body and Mind," page 164, that "there are some, who in strong and robust military constitutions, in intermittent fevers, join *arsenic* five or six times sublimed (which only divides its parts) with *quicksilver*, and make it up into pills with mucilages, and give eight or ten, or a dozen a day."

Arsenic drops, as they are called, are now in common use, for agues, in many parts of England; but though they will certainly cure the ague, they frequently cause paralytic affections.

Therefore, it may be proper to embrace this opportunity to add some admonitions and cautions, which, in addressing skilful medical people only, might be unnecessary.

Bringing the power of the mercury into contact with the diseased parts, being necessary for their extirpation, it is certain that the application is most successful in small local cancers, affecting a simple gland, or some cartilaginous or muscular part: and that in large masses of glands, breasts of women, and parts where there is no ascertaining the bounds of the disease, and where the cavities or communications may be deep, irregular, and extensive, the success must be precarious, and it should never be used. And as sublimate externally applied is violent in its action, anatomical knowledge and medical judgment are required, to determine whether the disease be within the reach of its effects, the part safe, and the patient a proper subject for its application. Otherwise it may not only be applied in vain, but highly injuriously; and when to a large surface, in delicate and irritable habits, it may excite insupportable pain, dangerous fever, commotions in the nervous system, and convulsions.

ON THE

BELLY-ACHE;

OR,

COLICA PICTONUM.

MUCH has been written of the history, cause, and effects of this disease, by CITOIS* and Sir GEORGE BAKER†; a multitude have followed their steps.—The subject, however, is not quite exhausted; and a few words may still be added, without diminishing the credit of what has already been done, or increasing the useless catalogue of the *servum pecus imitatorum*.

---

* "De novo et populari, apud *Pictones*, Dolore Colico Bilioso." This colic received the name from *Poitou* in France, where it first appeared in 1572. The name of *Colica Pictonum* was given to it by CITOIS, or CITESIUS, as he calls himself, in his *Opuscula Medica*, printed at Paris in 1639. He is the first who wrote expressly on this disease, and, according to ELOY, in 1616; and not RIVERIUS, as HILLARY and some others imagine. RIVERIUS did not write on this disease until 1640.

† London Medical Transactions.

The *Belly-Ache*, in the West-Indies, is the offspring of diseased secretions; from debility, in the stomach and intestines. It is endemial in the West-Indies; and epidemical, or accidental, in most other parts of the world.

In Europe, I believe, it has often visited particular districts epidemically; for the devastation it has made at different periods, in many places, must have had a cause more general, than wines impregnated with saturnine solutions: — one of its notorious causes. — It often still appears in some countries, in the autumnal season, but not uniformly. In the autumn of 1787, I did not see one person afflicted with it, in any town near the *Rhine*, from *Cologne* to the lake of *Constance*. There was not one patient with the *Belly-Ache* in the hospitals at *Coblentz*, *Frankfort*, *Manheim*, or *Strasbourg;* nor did I see any afterwards at *Kempten*, *Inspruck*, *Brixen*, or *Trent:* nor any peasant, or other person, with its paralytic effects.—The result of my remarks in *Normandy* in the autumn of 1785, was the same.

Doctor MENGHIN of *Inspruck* told me, it is a common disease in the Tirol; but that it is generally attributed to the preparations of lead, with which the people in the Tirol, and Italy, mix, adulterate, and sweeten their wines. He cautioned me to avoid all sweet wines whatever, but particularly the common tavern wines upon the road, that had a sweet taste, in the Tirol, and Italy. I mention his excellent advice as a caution to others.—I never deviated from it but once, and paid dearly for it at *Viterbo.*

Whatever is the cause of the *Belly-Ache,* the symptoms and effects are the same; varying only in extent.—The principal symptoms are, costiveness generally, sickness of the stomach, or vomiting, and pains about the navel; which, when excruciating, give the eyes a glassy and wild appearance. When the disease is obstinate and often returns, a paralysis is generally the effect:—first, of the hands and arms, then of the feet and legs. This paralysis is attended with wasting of the muscles of the limbs affected, and a contraction of the parts (as flexors are with more difficulty destroyed than extensors), particularly of the hands, and there most remarkable in the *abductor* and *flexor* muscles of the thumbs: where the wasting always begins, and when people recover, by making voyages at sea, or by coming to England and using *Bath* waters, the remains of the disorder are most visible.*

In habits of body disposed to receive this disease, other diseases will bring it on: so will costiveness, astringent medicines, bark, acids, irregularity in diet, check to perspiration, anxiety, and indulging aphrodisiacal passion.

The poraceous matter discharged in vomiting, in severe attacks, is generally so corrosive, and styptical, as to excoriate and contract the throat and fauces; and frequently changes the appearance of silver utensils to a black colour, as if they had been in contact with the phlogiston of sulphur.

The belly-ache seldom attacks people recently arrived in the West-Indies; yet HILLARY is so mistaken, as to assert otherwise.

---

* *Peter Columbus*, steward to captain *George Young* in the St. Vincent's trade, lost the use of his arms and hands three times in the West-Indies, by the belly-ache. It attacked him after his recovery from fevers, in which he took much bark. On his return to England each year he was afflicted, he went to Bath, where he bathed, drank the water, and had his limbs pumped on; by which means he entirely recovered their use. In 1781 he remained at Bath eleven weeks; in 1786 seven weeks; in 1788 six weeks.

The natives and long residents are almost always the sole objects of this disease.

Soldiers, unless they have resided long in the West-Indies, notwithstanding their irregularity in living, are not often afflicted with the belly-ache, though frequently with the *Bilious Colic;* which is generally brought on by crude diet, drunkenness, and its consequences. This disorder, to which newly-arrived troops are most subject, and another species of *Colic* brought on by the excessive and injudicious administration of bark, transient medical people have often mistaken for the belly-ache; and its subsequent debility for paralysis. From these errors, fatal consequences have arisen.

The belly-ache, as a disease, is almost as common as ever it was, among the inhabitants of the West-Indies. It is thought otherwise; chiefly because its devastations are not so often seen, in wandering spectres about the streets, as they were formerly. The principal reason of this is, that the medical people there, at present, understand their profession; and formerly they did not. The resident practitioners now treat the disease properly, in the beginning, and prevent relapses; formerly they knew not how to do either. Paralysis, at present, is attributed rather to unskilfulness, than to the inevitable consequence of the disease.

Yet the disease is certainly as much a natural production of the West-Indies as ever. The improved state of cultivation and knowledge has, no doubt, abated the frequency and violence of this, as well as of many other diseases. The lands are more cleared than they were, and people live, and clothe themselves more suitably to the climate, than they did formerly. Time and direful experience have made them wiser than those who, without rules to guide, or examples to follow, first encountered these inhospitable regions of expatriation.

Grog-drinkers are not particularly subject to the belly-ache; nor does rum appear to have any property that tends to produce it.

I have known a multitude of people in the West-Indies afflicted with this disease, who seldom drank any rum, at least not to excess. Mr. *John Ellis*, a planter in Jamaica, never drank any rum, yet he was constantly harrassed with the belly-ache; and, from frequent violent relapses, notwithstanding his great temperance and prudence, became at length paralytic.

Though acids are certainly prejudicial to those who are subject to the belly-ache, they do not appear to have any certain effect originally in producing it. At least punch-drinkers are not more the victims of it, than other people. HUXHAM therefore was very remote from the true cause of this disease, in the West-Indies, when he attributed it to lemon juice *.

The notion that solutions of lead, from the worms, and other utensils employed in the rum distilleries, are among the common causes of the belly-ache in the West-Indies, or that there is ever any detectable quantity of lead in rum, are both equally distant from my opinion, and observations. Such chimeras are the offspring of little chemical, and less medical knowledge.

Though the use of many preparations of lead is much more inoffensive than generally believed (and considering how indiscreetly they are employed in lotions, cosmetics, and a variety of other local, as well as internal purposes, it is fortunate for many people that it is so), yet it is scarcely possible to suppose FERNELIUS was serious, when he said, an arthri-

---

* "Nimio usu acerbissimi limonum succi." *De Morbo Colico Damnoniorum*, p. 38.

tic patient took a pound and half of white lead, instead of sugar, in fifteen days, and survived it *.

Writers, I believe, have not accurately discriminated between the effect of the calces, salt, and phlogiston of lead.—In the latter of which, its deleterious quality consists; and that principally in the act of quitting the earth of the metal, in exhalation.

That taking the salt, or sugar of lead, as it is called, inwardly, so much extolled by physicians and chemists of the two last centuries, in pulmonic diseases, quinsies, intermittents, dysenteries, hæmorrhages, and inflammations of the viscera, will cause the belly-ache, as well as being exposed to the vapour of its phlogiston, I believe is certain; but it is not so incontestibly proved:—nor whether it may not safely be taken in some vehicles, though poisonous in others.

---

* Huic, a me jam doloribus liberato, empiricus quidam *Plumbi pulverem* adversus arthritim ita commendavit, ut in eo solo ejus recurrentis præcautionem positam esse statim persuaderet. Cujus idcirco usum amplexus, pulveris ejus *sesquilibram* ex jusculis, ex vino & piris coctis, aliisque cibis, [illegible]chari loco, dierum quindecim spatio absumpsit. *De Luis Ven. Cur. Cap.* vii. *p.* 230.

Lead itself is perfectly innocent, while its phlogiston is kept bound down and united with its earth;—for which reason miners suffer no inconveniency from it, in mines destitute of inflammable air.

It is otherwise when fire is applied to it, which discharges its phlogiston. Therefore smelters and ceruse-manufacturers suffer by its poison; and those exactly in proportion to the quantity of vapour to which they are exposed.

Ceruse is incapable of producing any poisonous vapour, until its phlogiston is renovated, and volatilised by the application of oil; hence painters in oil suffer.

Friction from the types in printing, together with the oil in the ink, and the drying of the types at the fire, cause an exhalation injurious to printers. Using the letters warm has frequently caused palsies. I have known many printers subject to the *Belly-Ache*, while they remained in their office; and always free from it otherwise.

A compositor, at Mr *Davis's* in Chancery-Lane, while the first edition of this work was printing, had been afflicted with the belly-ache for four months, and was then in a miserable condition. He applied to me. He was cured in a few days, and returned to his work; and remained well, five months afterwards.

He had been accustomed to moisten his fingers in his mouth, to take up the letters with more facility, and also frequently to put letters in his mouth, while working; by which habit he frequently swallowed a portion of the solution of the metal, in the impregnated saliva.

But now to the Cure of the *Belly-Ache*, and the prevention of its paralytic effects. If what I have to relate do not teach a successful method of treating this most distressing disorder, I shall be as much disappointed, as those will be who look for hypothesis and ostentation; where nothing is intended but plain matter of fact and utility.

It is not to be expected that relapses can be prevented, while people continue to follow the occupations, and habits, which cause the disease. What I propose is, to cure the disease when it first appears; and to advise the inhabitants of the West-Indies, workers in lead, painters, plumbers, printers, enamellers, gilders, drinkers of austere or adulterated wines, cider, &c. to pursue the following method immediately on their being attacked.

When the disease comes on, if the bowels are costive, let a dose of manna and cream of tartar be taken; or what answers better, if it can be procured, a table-spoonful of castor oil, called *oleum ricini,* and *oleum palmæ christi.* If one spoonful should not operate within a few hours, another spoonful is to be taken, and to be repeated every four hours, until it does, diluting with chicken, or mutton broth. The oil may be taken alone; or mixed with a little sugar, and four table-spoonfuls of simple peppermint water; or in a little white wine; or warm water-gruel; or a cup of broth. Where stools are procured with difficulty, an emollient and cathartic glyster may be given, to assist and quicken the operation of the purgative medicine.

After the costiveness has been removed, and the bowels have been well cleansed, the VITRIOLIC SOLUTION (to be given in the next dissertation) will generally be found sufficient to cure the disease.

Of this solution, a table-spoonful (for a man or woman) is to be taken every six or eight hours while the pain is considerable, and to be continued afterwards every morning fasting, for several mornings, when the pain has ceased; —keeping the bowels open, if the solution should not do it, by taking every night, or every second, or third night, at bed-time, a table spoonful or two of castor oil, by itself, or mixed as before mentioned.

If any griping or uneasy sensation should remain, notwithstanding the bowels have been sufficiently opened, and the solution taken as directed, an occasional opiate is to be administered.

The solution generally causes retching; sometimes it will act as a purgative; in either case it will be almost equally serviceable; and when a table-spoonful produces neither of these effects, the dose must be enlarged until it does; —drinking now and then, particularly after retching, a draught of chicken, or mutton broth. There is no necessity for diluting to encourage vomiting. The nausea which the medicine causes, is very disgusting; but in that much of its efficacy consists.

I sometimes increase the quantity of the vitriol, and sometimes the proportion of alum, in the solution. Sometimes I omit the alum intirely in the beginning of the disease, particularly in very costive and bilious habits; and where vomiting is necessary to cleanse the stomach.

Some years ago Roman vitriol was introduced into practice in the West-Indies, for the belly-ache. I often used it, but never after I discovered the superior efficacy of the following solution; since that time, I have not had one patient, however severe the disease, become paralytic after it.

In violent and sudden attacks of the belly-ache, where the patient has been long subject to it, and where relapses have frequently happened, they generally come on with excruciating pain, and excessive vomiting. Here it is in vain to attempt forcing a passage through the intestines, however locked up they may be, by any purgative whatever; nor is it good practice but in extreme necessity, to use opiates to ease the pain; nor to unite opiates with purgatives; a practice adopted by HUXHAM, taken from RIVERIUS.—From opium and drastic purges, great mischief has arisen; and hence it is that the belly-ache crippled so many people formerly in the West-Indies.

In this situation of the disease, the patient is to be vomited by small and repeated doses of the vitriolic solution, without the alum, and to dilute plentifully with mutton-broth; then to have a glyster, and to be immediately put into a tub of warm water, so that the water may rise as high as the thorax; here he is to remain for a considerable time, if his strength will permit; and as the stomach will generally retain medicine while the patient is in the bath, he should, when his stomach is easy, take the castor oil, or a solution of manna in a draught of warm ale; or neutralized lemon-juice, and large doses of magnesia.

Should the pains not abate by the bath, a large blister is to be applied to the belly, centrally over the part.

The vomiting removed, and the bowels in a laxative state, the solution and castor oil are to be taken, in the manner I have already related.

ON THE

VITRIOLIC SOLUTION.

WHITE VITRIOL, though now almost out of use for internal purposes, was once a great medicine among the chemists, under the appellation of the *gilla*, or *salt of vitriol*. But, like many other excellent medicines which they employed, it has long since been expunged for its vulgarity, by refinement.

THE VITRIOLIC SOLUTION.

Take of White Vitriol, three drams;
Roch Alum, a dram;
Cochineal, three grains;
Boiling Water, a pint.

Mix these all together in a marble mortar; and let the solution stand until it is cold, and the sediment settled at the bottom: then pour it off clear for use.

The cochineal is first to be rubbed fine in the mortar, then the vitriol and alum are to be added, and also rubbed fine; and lastly, the boiling water is to be poured on the ingredients, and stirred until they are dissolved. This is the solution mentioned at page 402, which I now give in English, for the benefit of those employed in the important branches of business I have mentioned in the preceding dissertation; and who, unfortunately, often stand in need of its use.

The VITRIOLIC SOLUTION is of great utility in all pulmonic oppressions, where respiration is performed with difficulty; and where expectoration is to be promoted, and the bronchial glands are to be unloaded and cleansed;—in nauseating, or slightly vomiting doses.

In moist pituitous habits, with phlegmatic asthmas,—in catarrhal coughs, and above all in the moist English hooping-cough, its effects are wonderful; taken once, or twice a day, particularly in the morning fasting, in doses to cause a slight retching. In the same manner it removes defluxions on the lungs, bronchia, and trachea, from relaxation of the parts, or defect of their powers; and may prevent consumptions induced by those causes.

In putrid sore throats, where the fauces are clogged and loaded with sloughs, a dose sufficient to cause a gentle action of vomiting, given once or twice a day, is of great service.

The common dose, to create a slight retching, for a man or woman, is a table-spoonful; for a child of six months old, a tea-spoonful.

In chronical diseases, it is to be taken every morning fasting, for a few mornings; then to be omitted, and afterwards resumed, and persisted in at intervals, as occasion may require. But if costiveness, the common consequence of its continued use, happen, it must be omitted until this impediment is removed, by some aperient. It is evident that the alum, in the solution, is an addition to the vitriol, that must oppose part of its operation; and consequently ought to be omitted, when the effects of the vitriol, and not the result of their combination, are required.—The same is to be observed respecting the alum *.

Art cannot render this solution agreeable to the taste, without destroying its virtues. Nor will the ingredients of which it is composed,

---

* See page 402.

taken in the form of pills, produce the same effects as in solution. White vitriol, besides being in all respects safe and innocent, has advantages over every other nauseating, or emetic medicine whatever;—which are, that the patient is not harrassed with its operation, for that is never violent (as antimonials sometimes are), generally instantaneous, and as suddenly over; always leaving the stomach strongly invigorated. Neither does it ever cause spasms in the viscera, or any nervous affections; mischiefs often produced by antimonials carelessly exhibited: and in the disorders here mentioned, the solution requires neither dilution with it, nor regimen, nor restriction after it.

Sometimes the solution, like white vitriol alone, is not only slow in its operation, but will not act at all, as an emetic, without some provocative to vomit. When this happens, where vomiting is required, or to carry off the nausea, when it continues long, a large draught or two of posset drink, carduus tea, or chamomile tea, will produce the effect.

ON

HÆMORRHAGES

FROM THE

LUNGS.

IN hæmorrhages from the lungs, whether attended with great arterial discharges, or only venal excreations, I have known the VITRIOLIC SOLUTION, taken in nauseating doses every eight hours, to remove the disease.

It diminishes the action of the arteries, by abating the force of the diastole of the heart. By thus lowering the circulation, in hæmorrhages, the danger of inducing a dropsy, from repeated bleeding, is avoided. The usual auxiliaries must accompany, and favour the operation:—rest, cool air, a lax state of the bowels, and evacuations proportionate to the plethora, and other indications.

But the best security against a relapse, in all cases of hæmoptysis, or pulmonary hæmorrhage, and to prevent the disease becoming chronical, and ending in consumption, and to establish a permanent cure, after the first plethora has been subdued, and the habit duly prepared, before purulent spitting comes on*, is a long sea voyage, or frequently repeated short ones†.

Mr. *Reader*, a gentleman between forty and fifty years of age, in Jamaica, had an hæmorrhage from his lungs, and often bled nearly to death. He made several small voyages, and always found himself perfectly well at sea; but as he returned, and remained a week or ten days on shore, the hæmorrhage returned. Finding his state so perilous, he bought a small vessel, and being a man of sense and resolution, he consigned himself to the ocean; and went from place to place, until he conquered his infirmity, and regained his lost health. The accident happened about five years since.—He is now well, 1787.

The greater hæmorrhages from the lungs, or those of plethora, like all periodical hæmorrhages undisturbed in their natural course by peculiar circumstances, obey the influence of the moon.—Of this, I have many proofs; and that there are not more, authenticated by others, is owing, I believe, to the theory on which the fact depends not being sufficiently known to prevent the result escaping unnoticed.

---

* "Ex sanguinis sputo, puris sputum; ex puris sputo, tabes." HIPPOCRAT. Aph. xv. & xvi. sect. 7.

† See pages 74. 78.

Among many instances which I have lately seen, there was one which deserves to be recorded. A man, in Burleigh-street, in the Strand, had a cough for some time, which brought on an hæmoptysis. This continued for six weeks, and then degenerated into a regular monthly eruption of blood from the lungs. He disgorged about eight ounces of blood, every full moon. He was always low-spirited and weak, as he expressed it, on the day preceding the hæmorrhage. He had been in this state for five months, when he applied to me. The hæmorrhage was removed by the vitriolic solution; but his lungs, and whole habit, were too much diseased to admit of cure.—He became tabid.

This doctrine attended to, hæmorrhages, which do not prove fatal in the first or second attack, will seldom be so afterwards; as their returns may always be moderated, and often entirely prevented; which, from repeatedly wounding the lungs, induce ulcerations there, and end the subject in consumption.

The impetus of the blood being exalted by the moon's effect on our atmosphere, it is always necessary to be watchful in every case of hæmorrhage, when her influence is greatest on the earth. And if, two or three days preceding the new or full moon, the matter expectorated be tinged with a bright yellowish hue, and gradually change to a brownish appearance, accompanied with flushings in the face, or oppression, or pain in the thorax, or languor, the storm is formally announced, and blood follows.

Accidental, or spontaneous arterial hæmorrhages from the lungs, however small the vessel injured may be, are cured with great difficulty. But venal hæmorrhages, and such as arise from the suppression of menstrual or hæmorrhoidal evacuation are, in general, removed without much trouble.

Captain Richard Boyle, of the 3d regiment of guards, was attacked in London, on the 20th of January, 1785, from straining in pulling on his boots, with a pulmonary hæmorrhage; and almost suffocated, by the violence of the blood forcing itself through his mouth and nostrils. It was preceded by a momentary tickling in his throat, that excited a fit of coughing; in which, an artery burst in the right lobe of his lungs. He was in the 23d year of his age, and of a plethoric habit; but free from all defect in make, that might indicate such an event.

He had many repetitions of the hæmorrhage after recovering from the first attack, in the course of the same year; and was advised to go to the south of France, to avoid the following winter in England. It was there that I saw him; and found the hæmorrhage periodical; and so faithfully obeyed the influence of the moon, that a statement of the returns, of such as came within my knowledge, will shew one of the most decisive examples of lunar influence, in medicinal history.

1786, February 14th, he was attacked at *Hieres* near *Toulon.*—Full moon on the 13th.—In this hæmorrhage he was for some time thought, by his attendants, to be dead.

Feb. 29th, at *Aix* in *Provence.*—New moon on the 28th.—Here also he bled nearly to death.

April 15th, at ditto.—Full moon on the 13th.

April 29th, at *Tain* upon the *Rhone*.—New moon on the 28th.

May 14th, at *Chalons* in *Burgundy*.—Full moon on the 13th.

June 11th, at *Dijon*.—It was then full moon.

July 11th, at *Paris*.—It was then full moon.

August 9th, at *Yarmouth* in the *Isle of Wight*. —It was then full moon.

The last three hæmorrhages came on at the instant the moon appeared above the horizon.

The violence of the hæmorrhages was abated by the vitriolic solution, and the expectoration at other times, which was enormous, always assisted by it; and latterly he had none of those excessive and involuntary eruptions of blood, which in the two first of the preceding instances, and others prior to them, which I cannot ascertain, endangered his life. Yet, notwithstanding the advantage we had of knowing when the effort would be made, and the precautions used in consequence thereof, there had been so much mischief done, that the circulation rising with the rarefaction of the atmosphere, continued to force the blood through the dilated orifice of the lacerated vessel, and the vital fluid appeared in his expectoration, as constantly as the moon made her revolutions. This was the case also, often, subsequent to the preceding dates.

At length the hæmorrhages were conquered; and the period arrived, when it was my opinion,—for he had a powerful constitution,—that a sea voyage would have restored him to health. But before this could be carried into execution, he was overtaken by other indispositions from new causes, which destroyed every hope, and defeated all medical aid.

The remainder of his melanchòly history is irrelative to medicine, and well known to those who knew him.—Yet, as I have trespassed on my feelings in reciting his misfortune, I cannot pass silently over the exemplary and unaltered manner, in which he bore its lingering and painful termination.

During nearly four years, in which he struggled under every calamity that could bend the spirit of man, he never betrayed a moment's thought, that had its origin in diminished fortitude.—His firm mind, filled with grateful remembrance of his friends, retained its amiable lustre, through the recapitulation of the many sufferings he had endured;——and smiling at the various causes, which, in driving him from the world, had extinguished all attachment to life, "I meet death with pleasure," he said; "—it is happiness for me to die.'

ON THE

INFLUENCE OF THE MOON.

IN the preceding dissertation, the influence of the moon, in pulmonary hæmorrhage, has been sufficiently shewn. I selected the instances there mentioned, from a great number of the same kind, which had occurred to me in my practice, during a series of years, previous to the time of my first publishing on this subject; and recording a fact, new in medicinal history.

Since then I have, as must be supposed, seen a multitude of hæmorrhages from the lungs; but scarcely one, unless brought on by force, or violent exertion, that did not first appear at the new, or at the full moon. As to relapses, or returns of these hæmorrhages, I never saw one at any other period; unless where too much exercise, intemperance, or accident, had occasioned it.

The ancients attached much importance to the moon; and had great faith in her influence. The moderns view her with indifference, or scepticism.—The ancients, living a more natural life than the moderns, had leisure, and opportunity, to watch the simple operations of nature, and to discover their effects. The moderns shorten their labour, by mechanical experiment; and, to avoid the imputation of credulity, believe in nothing they cannot demonstrate.—Here, it must be confessed, that the moon hitherto, has set all speculation at defiance: and if facts be not produced to establish her power, theories and mathematical calculations will assist me as little, as the barometer and thermometer, which hang in my chamber.

Among the numerous advocates for lunar influence, are some of the most venerable names of antiquity.—Names, that excite respect for opinions;—which, though not supported by general laws, are not to be rejected, on subjects of this kind, by hypotheses of analogy.

The operations of nature are anterior to books; and the best books, on natural things, are but the maxims of planters, and cultivators of the earth; breeders of cattle; herdsmen, and shepherds; fishermen, and mariners:—with whom the moon has ever been an object of great consideration.

Her power and quality, as to the atmosphere, have always afforded a topic for dispute; to men, who had rather be at the trouble of writing a great deal, than of making a few easy experiments.

Some ascribe her operations, with ARISTOTLE*, to the result of additional heat, which her influence gives to the atmosphere; others to moisture; some to both; others to neither.—There are others, who admit that the tides correspond with her lunations, yet deny that her influence is the cause thereof; even by the power of attraction.

The ancients attributed to her heat, the increase, corruption, and putrefaction of bodies; the moderns deny this; supporting their opinion by her making no certain change in the thermometer; and by her incapacity of diminishing the quantity of any surface of water exposed to her rays.

Physicians, in the early ages, founded their predictions, concerning epidemical diseases, from

---

[*] Αλλα δια το αλεεινοτερας ειναι τας νυκτας, δια το φως της σεληνης. Περι Ζωων Μοριων. Β. ϐ. δ. Κ. ε.

the weather; and formed their foreknowledge of the weather, chiefly from the appearance of the moon.—The termination of fevers, and event of crises, were presaged by septenaries, quaternaries, and ternaries, from the decumbiture of the sick.—This was the doctrine of HIPPOCRATES. Or, from the quarters, or potential periods of the moon, every seven days.—This was the doctrine of GALEN.

Before I proceed further, I think it is here necessary to observe, that it is my intention, by way of making my own introduction the more acceptable, to give a brief account of every thing original, that has been said, by authors worthy of notice, on the subject of this treatise; and I shall arrange them, according to their dates of seniority.

HIPPOCRATES [*] notices the influence of the heavenly bodies, on man and all living creatures [†]; and advises his son *Thessalus* to study numbers and geometry; and says, that the knowledge of astronomy is useful to a physician; as the rising and setting of the stars affect diseases [‡].

---

[*] 428 years before the Christian æra.

[†] Περι σαρκων. Κ. α.

[‡] Περι αερων, υδατων, τοπων. Κ. α.

ARISTOTLE *, the first great oracle on lunar influence, has furnished opinions that have been copied, and with little variation, by every subsequent writer. Therefore his sentiments take the lead for importance; and after HIPPOCRATES, for priority.

He says, "though there is no certain period for the menstruation of women, yet it generally happens at the new moon. That the bodies of all animals are cold in the decrease of the moon; and that the air is likewise affected in the same manner; but most so near the end of the moon. The blood and humours are then put into motion; and for that reason women have their menses, and girls the fluor albus, at the new moon †."

That, "earthquakes frequently happen about the new moon; and winds are excited a few hours previous to that period." He again observes, "that the warmth of the moon is diminished by her approximation to the sun ‡."

---

* 341 years before the Christian æra.

† Περι Ζωων Γενεσεων. B. Ϛ. K. δ.

‡ Μετεωρολογικων. B. Ϛ. K. η.

These last opinions, led me to examine the period of the moon, when some of the most remarkable earthquakes took place.

I find the dreadful one at Port Royal, in Jamaica, on the 7th of June, 1692, burst forth three days after the new moon: that at Lima, on the 28th of October, 1746, five hours and three quarters before the full moon; and that at Lisbon, on the 1st of November, 1755, three days before the new moon.

In respect to winds being excited by the moon, every person knows the fact to be so, in general: and though the hurricane that I witnessed, and have described *, which so scourged Jamaica, on the 3d of October 1780, was five days after the new moon, the storms that devastated Barbadoes, and some other West-Indian islands, in the same month, made their appearance at the full moon.

Aristotle says,—"all shell fish suffer by the extremes of heat and cold; and are not in perfection at these times. The echini fatten at the full of the moon; not because they then eat more, as some people think, but on account of the

---

* Page 12.

the nights being then warmer, from the rays of the moon. They delight in warmth, though they can endure cold, inasmuch as they are destitute of blood; from whence it arises, that they thrive every where most in Summer time, excepting in the currents of Euripus, where they improve also in Winter; from the peculiar circumstance, that the fish in Winter time quit those waters; and leave them better feeding[*]."

Lucilius[†], the Roman satirist, says, "the moon, in her augmentation, nourishes oysters, fattens the echinus, increases the fibres in mice and cattle[‡]."

In consequence of this passage it is remarked, in the works of the celebrated Roman critic and grammarian A. Gellius, wherein it is cited, that, "those things which increase with the moon, decrease with her. That the eyes of cats are larger, or smaller, according to the moon.—But that onions revive and put out their buds, in the decrease of the moon, and wither in her increase; contrary to the nature of every other vegetable production used as food:—which is the reason assigned by the Ægyptian priests, why the people at Pelusium do not eat them."

---

[*] Περι Ζωων Μοριων. Β. δ. Κ. ε.

Cardan, on this topic of natural history, suggests, that the waters at the time of the full moon are more fattening, from the mud. Pierius says that crabs then eat longer, having more light; but Aldrovandus is of opinion, that the moon's rays produce their effects, by a moist mild warmth.

[†] 121 years before the Christian æra.

[‡] Luna alit ostrea et implet echinos, muribus fibras
Et pecudi addit." A. Gell. Lib. ii. c. 8.

HORACE[*], in delineating the luxury of the Epicureans, makes Catius say, that "shell fish are at their best state for eating, in the increase of the moon[†]."

CELSUS (anno 40) advises, that "people whose heads are infirm, should not expose themselves to the moon; adding, that such people should never go out directly after eating[‡]."

PLINY (anno 78) says, "it is certain that the bodies of oysters, muscles, cockles, and all shell fish, increase and decrease with the moon; and some curious investigators have discovered, that the fibres, or streaks (in the livers) of rats answer in number to the days of the moon's age [*]: and that even the little creature the ant feels the moon's influence, and never works at the time of the change.—Some cattle have distempers in their eyes which grow, and decline, with the moon [†]."

---

[*] 40 years before the Christian æra.

[†] "Lubria nascentes implent conchylia lunæ." Lib. ii. sat. 4. 30.

[‡] Lib. i. c. 4.

He says, "the fourth day of the moon generally determines the winds of the month, that may be expected to prevail [‡]."

Aristotle, he says, "observes that no animal dies but at the time of the reflux, or ebbing of the tide.—It has, he says, been much remarked on the sea coast of France; but found by experience, to extend only to the human race [§]."

The moon, he says, "is truly conjectured to be a spirit. By this she saturates the earth; and in her increase replenishes bodies, and in her decrease empties them again. Therefore all shell fish increase with the moon; and those animals which have no blood, most feel her force. The blood in human beings also is augmented, and lessened, with her light; even the leaves of trees, and forage of cattle, are affected by her influence; which pierces, and enters into all things *.—She turns to corruption the slain carcasses of wild beasts, if she shines on them; and when people sleep in her rays, she attracts heaviness and stupor to the head.—She thaws ice, and with a moistening breath enlarges all things.—The moon is nourished by the fresh river waters; as the sun is fed by the sea †."

---

[*] *Lunaria*, or Moon-wort, is said to increase and decrease with the moon; and to have on its leaves as many lines indented as the moon is days old. Roses are said also to increase and decrease with the moon.

[†] Hist. Nat. Lib. ii. c. 41. [‡] Ibid. c. 47. [§] Ibid. c. 98.

He makes some extraordinary comments on females, in their catamenial periods, at the new moon; and of their influence over storms at sea, at other times also ‡.

PTOLEMY, in his Quadripartite (anno 161) says, "the moon, the nearest planet to our earth, has much influence on it; by which, things animate and inanimate, are affected,

---

* Hist. Nat. Lib. ii. c. 99. † Ibid. c. 101.

‡ Lib. xxviii. c. 7.

fected, and changed *. According to her light, rivers are augmented and decreased; the tides vary as she rises and sets; plants and animals, in whole or in part, increase and decrease with her."

He says, "the next, in force to the sun, is the moon; whose manifest influence more frequently appears; especially at the new and full moon; and at the quarters.—The nature of the moon is moist †."

GALEN (anno 164) says, "we certainly feel the influence of all the superior stars. But that which most adorns, moves, and regulates this globe, is the sun; because he is the author of spring, summer, autumn, and winter. Without his heat, animals could not be generated from terrestrial slime; nor fruits ripen; nor the act of generation and propagating the species be excited. But in these things the influence of the moon, though inferior to that of the sun, appears considerable."

---

* Συμπαθουντων αυτη και συντρεπομενων, των πλειστων, και εμψυχων και αψιχων. B. α. K. ϐ.

† Ibid.

" The new moon commences, when she has been in conjunction with the sun. As she departs from the sun, she undergoes all her mutations; so that she is at her full, when she has performed half her circuit; this divided into equal proportions makes the half-moon in the quadratures, or squares. When she is gibbous she is in a triangle, or trine; when falciform, or shaped like a kind of sickle, she is in sexangle, or sextile: and when she first appears after her conjunction with the sun, it is a new-moon again. She enlarges fruit; fills animals; governs the menstruation of women; and the return of the fits of the epilepsy; —but the sun here has more, or less, participation."

" All animals born when the moon is falciform, or at the half quarters,—are weak and feeble; but those born at the full moon, are healthy and strong."

" The full moon ripens fruit quickly; putrifies dead bodies; and causes paleness, and headache, in people who sleep in her rays, or otherwise remain long in them."

" The moon in all things stands in need of the sun's aid; but the sun does not require the help of any star whatever; not that of the moon herself. The sun alone causes by his elevation, and declension, summer, and winter;—heat and cold.—He is like the greatest potentate.—But as HIPPARCHUS says, the moon is not like a very small one; and placed between the sun and us, she governs the terrestrial region; not from surpassing the other planets in power, but from her nearness to the earth [*]."

"The changes produced by the moon are most violent at the new moon; also at the full moon; but less at the quadratures; and when she is gibbous and falciform, the changes then made in our ambient air are the least: but most feeble of all, when she is gibbous.—At the full moon the changes are sudden; because she passes the exact point of her full, momentaneously. At the new moon they are unequal and lasting; but this cannot be correctly ascertained until she re-appears after the occultation; which includes a space of nearly three days [†]."

"As the sun describes a complete year, so the moon describes a month; by four quarterly changes, of seven days each [‡]."

---

[*] Περι Κρισιμων Ημερων. B. γ. K. ϛ.

[†] Ibid. K. γ.

[‡] Ibid. K. ε.

" That the air which surrounds us, undergoes great mutations at the time of the new moon, no mortal can be ignorant; and more especially those, among whom these things are considered; such as husbandmen, and mariners; who calculate on the state of the weather, according to the wind that blows, when the moon first appears, after her conjunction. Therefore ARATUS * most truly described the effects of the moon on this point."

" That the month undergoes changes by the moon, at the quarters, every seven days, is evident; as all things universally suffer mutations at these periods."

" Every embryo from the instant of conception; and its growth from the time of birth:—and all actions, from their beginning, have great alterations, in every revolution of seven days. Therefore the effects of the moon are constantly observed at the squares, and opposition."

" For example; if conception should take place when the moon is in Taurus, or a birth at that time happen, or the commencement of any action,—the moon will occasion great altera-

---

* 270 years before the Christian æra.

tions in her transit through Leo, Scorpio, and Aquarius. For, in Leo, in the first seven days, she will be in square to her position at the time of the accident; in Scorpio, in opposition, in fourteen days; and in Aquarius, in the second square, in twenty-one days [*]."

"Our observations confirm the opinion of the Ægyptian astronomers:—that it is not only possible to foretell by the moon, what days shall affect the sick, but also the well."

Here Galen enters into what is called astrology. Perhaps a paragraph of his art, may be amusing to an English reader.

The moon he says, "in aspect with salutary planets [†], produces lucky, and good days;—with violent ones [‡], troublesome, and unhappy."

"We suppose also, that any person born, when the benign planets are in Aries, and the malignant ones in Taurus, this person, when the moon is in Aries, Cancer, Libra, and Capricorn, will pass his time pleasantly; but when she is in Taurus itself, or in square, or opposition to that sign, he will have an unfortunate, and miserable life."

---

[*] Περι Κρισιμων Ημερων. Κ. ε.

[†] Jupiter, and Venus.

[‡] Saturn, and Mars.

"The squares, and oppositions of the moon, in good beginnings, produce good effects; in bad, evil ones."

"Diseases commencing when the moon is in Taurus, Leo, Scorpio, or Aquarius, are worst; but when she is in Aries, Cancer, Libra, and Capricorn, they are without danger. Besides, there will be great changes in the sick, on the days of the squares, and oppositions; calculating by seven days. So that it must happen, that mortal diseases will end in death at those times, and other diseases have favourable changes.—For which reason Hippocrates dislikes very much alterations for the worse, on these critical days *."

Oribasius, (anno 330) from Antyllus, says "the moon, in her course through the zodiac, causes changes in the atmosphere. She is the cause of four seasons in the month; which correspond with the four seasons of the year, and are distinguished by weeks. The first week begins at the new moon, and is like the spring; the moon being then moist and warm, the air

---

* Περι Κρισιμων Ημερων. Κ. στ.

surrounding us, is most humid and warm: the humours then, are chiefly excited, and are most abundant, as in the spring season of the year. The second week begins when the moon has arrived at her first quarter, and ends at the full;—this state may be compared to summer; for this reason, that fruit then ripens. The third week commences at the full moon, and is dry like autumn. The last week, is to be considered as winter. Therefore, as many seasons as there are in the year, so many seasons there are in a month. It is to be observed that the sun by his rays warms all bodies; but the moon moistens them; and renders the brain moist; and putrifies flesh. People who live in the open air, from hence become more moist, and inert. The same cause produces heaviness in the head; and the epilepsy."

"We consider a day and a night to be likewise similar to a year. The morning is moist and warm, like the spring: from thence arises pure sleep; and both well and sick, are thereby refreshed. For which reason, this is always the most favourable time in illness; as the dews are dispersed in the morning, and fresh air is respired. Mid-day is compared to summer; the afternoon, the evening, and the first part of the night, to autumn;—at which time we do not advise sleep for the sick; nor drinks; nor any medicine, unless some particular occasion demand it; as at that time, and in the afternoon, every thing is to be done with caution. The middle of the night is similar to winter; for then the sun is furthest from us. Therefore pains become more violent in the night time; because the coldness of the night closes the pores of the skin, and checks perspiration. So that defluxions fall on the eyes of people, subject to weak eyes; and pains in the bowels; and cœliac pains; and fluxes of blood are promoted by the same cause*."

MACROBIUS (anno 410) says, "sleeping in the moon's light, disorders the head, and nearly to insanity †."

ÆTIUS (anno 455), has nothing but what is to be found in ORIBASIUS, and GALEN. But I mention him as he has noticed the subject of this treatise ‡; and is of great authority in medicine.

---

* Medicin. Collect. Lib. ix. c. 3 & 4.

† Saturnal. Lib. vii. c. 16.

‡ Tetrab. i. serm. 3. c. 162.

ACTUARIUS, (anno 1100) in his dissertation on Critical days, says, "the cœlestial bodies have great influence on the air surrounding our earth; and all creatures inhabiting it, are hereby affected and altered, according to such laws as the Creator established in the beginning of the world.—But the more apparent effects, are produced by the sun, and moon."

"The moon in her increase and decrease, imitates the seasons of the year. The time, from the new moon to the first quarter, represents the spring; from thence to the full, the summer; the third quarter, the autumn; and the last quarter, the winter."

"There is a certain power in the moon, evident to every person; which is, she diminishes, and softens the force of the sun."

"In her monthly course round the earth, she wonderfully affects our bodies; and being nearer the earth than the other planets, and undergoing great mutations in her increasings and decreasings, our bodies are likewise, immediately, affected by her changes."

"The orb of the moon has four principal changes, which we measure by seven days nearly; each week comprehending the side of a quadrangle, equal to a septenary;—in figure, and number."

"We observe that the sun also in this configuration, makes the four different seasons of the year; wherefore, if the square aspects of the planets are so strong, and seven days within a little in one side are numbered, this septenary number, in bodies liable to these mutations, is of equal force *."

AVICENNA (anno 1145) says, "some advise that cupping should not be used in the beginning of the month, (the new moon) because the humours are not now disturbed and exalted; nor should it be used at the end of the month, as the humours then are dissipated, or broken; but in the middle of the month (the full moon) when the humours are in commotion, and ebullition; following in their increase, the light in the body of the moon. The brain also increases with the moon; and the water in rivers, where there is a flux and reflux †."

---

* Medic. sive Method. Med. Lib. ii. c. 4.

† De Ventosis, Lib. i. fen. 4. doctrin. 5. c. 21.

"The best time for cupping, is at two or three o'clock. That it should not be performed after bathing, unless the blood be thick and gross.—That people who bathe, and are cupped also, should first bathe; then wait an hour, before cupping *."

These observations are so sagacious, and useful, though merely branching from my subject, I thought them worthy of insertion.

Many people, he says, "reckon the time of crisis, in acute diseases, by the moon; and consider her influence in promoting humidity, and causing thereby alteration; and by forwarding, maturating, and concocting; or on the contrary, according to the quality of the matter to be acted on. They suppose by her power of extending, and contracting, as in the tides, it is the same in regard to the augmentation of the brain, from the increase of the light in the moon; and the quickness with which the fruits of trees, and herbs, ripen at the full moon.—And they say, as people derive humidity from the moon, there are a variety of dispositions in the body; according to the diversity of the dispositions of the moon †."

---

* De Caus. Dier. cris. &c. Lib. iv. fen. tract. 2.

† De Ventosis, Lib. i. fen. 4. doctrin. 5. c. 21.

“ The cause of crises, if what is said be true, is, that the moon varies the operations of nature in diseases.”

“ When she is swift in motion, she is the cause of swift motion, and sudden change. She is also sometimes strong, and sometimes debilitated, in her course. This is known to astronomers.”

“ The effect of her action, is by no means so sensible, in her increase and wane, as at her full.”

“ A disease indeed never happens, unless from a cause which debilitates the work of nature.”

“ Crises sometimes happen on the fourth, sometimes on the seventh day *.”

I have now given the *principium et fons*, from whence have issued innumerable ramifications on lunar influence.

I could have selected other ancient writers on this subject; but they are, like some of the preceding, nothing more than copiers of either

---

* De Diebus Criticis, prim. part. cant. tract. 2.

ARISTOTLE, PLINY, PTOLEMY, or GALEN; without any thing original, worth noticing.

These great men themselves, may not be thought infallible; but I present them, as they are. Sensible of the difficulty of the subject, and my own concomitant errors, I must leave these sages to their fate; recommending to those who will scrutinize their sentiments, some pause; and the consideration, that they are the reflections of the most powerful minds, which nature ever formed.

I shall pass over in silence the barbarous reign of superstition; and will exhibit a specimen of the most respectable opinions, since the revival of learning. In which, I believe it will appear, that—

—"there is nothing new under the moon."

AMBROSE PARÉ, who died in 1590, observed that "people are most subject to the plague, at the time of the full moon;" and advises people "to avoid being in her rays, during a plague; as the nights then are most warm, and dangerous *."

PARÉ noticed also, that "the plague was most fatal, when the attack was made in the wane of the moon *."

QUERCETANUS says, that "it proved most fatal to old men and women, who were attacked in the wane of the moon; and to plethoric people, when at the full moon †."

Lord BACON, who died in 1626, says, that the influences of the moon, most observed, are four;—"the drawing forth heat; the inducing putrefaction; the increasing moisture; and the exciting the motions of the spirits ‡."

---

[*] Livr. xxii. c. 7. [†] Pest. Alexic.

[‡] Hist. Nat. Cent. ix. 889.

This great man always fell into a syncope, or swoon, whenever the moon was eclipsed.

SENNERTUS, who died in 1637, was of opinion, that "the humours increase and decrease, with the light of the moon; and diseases of the brain are affected with the changes of the moon's phases; sometimes augmented, sometimes diminished *."—"In acute diseases, the moon governs critical days; and that great changes are made, every fourth, and every seventh day. That her motions, rather than those of the sun, or other planets, agree with critical days †."

HELMONT, who died in 1644, "found by experience that a small wound is often difficult to cure, inflicted by moon light.—All things soon putrify in equinoxial countries; not from the heat only, but from the effects of the moon. If a dead man, or a beast, shall lie only one night in the rays of the moon, her beams then being perpendicular, the next morning the dead carcase will flow with corruption."

---

* Pract. Medicin. Lib. i. p. 1. c. 5.

† Instit. Medicin. Lib. iii. p. 3. c. 2.

"If the moon's rays be collected in a cone, and transmitted through a glass upon a wart, or excrescence, and kept on it until a coldness is perceived, it will soon vanish. For, such things increase with the moon, and more easily perish in her wane. Indeed I know, if the moon shall shine upon a wound, that the lips of it will turn livid, and be difficult to cure. In the next place, if a frog be washed clean, and tied to a stake in a field, in the full moon, in a sharp north wind in a winter's night, on the morning following it will be found dissolved, into a kind of white transparent mucilage, of the shape of the frog. Coldness alone, without the moon's rays, will not produce this effect *."

BALLONIUS relates, that "people in health were attacked with syncopes, during the eclipse of the moon in December 1573; and that there was incredible changes, and violent perturbations in the sick; and many were seized suddenly with convulsions, and delirium, on the same night †."

---

* Formar. Ortus, N. 54, 55, 56.

† Epidem. & Ephem. Lib. i. p. 24, 25. Anno 1640.

DIEMERBROECK, in his account of the plague at Nimeguen in 1636, says that, "the pestilence always raged most, two or three days before and after, every new and full moon; and almost all who were attacked at those periods died, and very suddenly; for many, who before were scarcely thought to be ill, died in a few hours; and many on the second, and third day; especially in those months when the disease was at its height *."

JOUBERTUS †, FINCELIUS ‡, MORELLUS §, HEURNIUS ||, and several others, confirm this fact,—that the plague always rages with most violence, about the new, and full moon.

RAMAZZINI says, "the pestilential purple fever which was so fatal at Modena in 1692, 1693, and 1694, increased in violence after the full moon, but more near the end of it, or new moon; and when the new moon appeared it grew milder; but that the purple spots broke out, at the full moon."

---

[*] De Peste, Lib. i. c. 5.

[†] De Peste, c. 9.

[‡] De Peste, B. 6. a.

[§] De Febre Purp.

[||] De Peste, c. 8.

He says, that "during the night of the eclipse of the moon, on the 21st of January, 1693, the greater part of the sick died; and almost at the very hour of the eclipse. Some died suddenly; and the whole of the next day, the tolling of the bells for the number of deaths, caused great consternation among the inhabitants [*]."

Our celebrated Doctor MEAD took up this subject [†]; but he has added nothing to what his predecessors left us. His work, is a mere compilation, which gave him an opportunity to indulge himself in the favourite theories of the times.

After MEAD, to the present day, the moon has never been thought of, as an object for medical disquisition; excepting in some periodical publications by me in the West Indies, in the year 1777; the substance of which will appear in the following sections.

Since that time, several practitioners in the East and West Indies, have given their observations on her influence, as far as relates to crises, and relapses in fevers. But among such publications, even on these limited points, there is not one which contains any thing new; but merely a confirmation of that which has been often repeated by ancient writers. Therefore their authors claim no notice here; where nothing but originality, and every thing that has been written which is so, is designed to have a place. By these means my publication may be further useful, in assisting the prosecution of lunar enquiry.

---

[*] Oper. Omn. p. 193, 214. ed. 1717.

[†] De Imperio Solis ac Lunæ, 1704.

MEAD'S can scarcely be deemed a medical work. He was more intent on proving mathematically, how the moon acted, than on furnishing cases, and matter of fact, of her effects.

He thought he could account for solar, and lunar influences on the human body, upon mechanical principles; and square them to Newtonian doctrines.

It was on this account, that departing from his professional line, he could only follow, *longo intervallo*, the great astronomers at that time; and establishing nothing in medicine, incurred the reproaches, though unfair and uncivil, which he met with.

"The famous Dr. MEAD, (says Chambers's Cyclopædia*) was a believer in the influence of the sun and moon on the human body, and published a book to this purpose; but his opinion has been exploded by philosophers, as equally unreasonable in itself, and contrary to fact. As the most accurate, and sensible barometer, is not affected by the various positions of the moon, it is not likely that the human body should be affected by them."

The learned Doctor HORSLEY has endeavoured, in a very ingenious paper in the Philosophical Transactions, to refute altogether the commonly received opinions, from the time of ARATUS, respecting the influence of the moon, on the *weather*;—the object of his dissertation.

He says,—"the vulgar doctrines about this influence is, that it is exerted at the syzygies, and quadratures, and for three days before, and after, each of these epochs. There are twenty-four days therefore in each synodic month, over which the moon at this rate is supposed to preside; and as the whole consists but of twenty-nine days twelve hours three quarters, only five days and a half are exempt from her pretended dominion. Hence, though the changes of the weather should happen to have no connexion whatever with the moon's aspects; though the fact should be, that they take place at all times of the moon indifferently, and are distributed in an equal proportion through the whole synodic month,—yet any one who shall predict, that a change will happen on some one of the twenty-four days assigned, rather than on any of the remaining five and a half, will always have the chances twenty-four, to five and a half in his favour *."

---

* Rees's ed. 1786, Art. Moon.

In respect to the author of the article in Chambers, and his philosophers, they are not more correct as to the barometer, than the Frenchman who has lately written to the Institute, from Quito; complaining of what I have said of it †; and we must try them presently, by what NEWTON used to call, his experimental philosophy; and not by theories, or mere assertions.

The learned Prelate's excellent dissertation, is foreign to my subject; but, notwithstanding his accurate discrimination, that the moon on some occasions, in our climate, is the sign, and not the cause of changes to happen in the weather, yet there are innumerable meteorological jour-

---

* Vol. LXV. part I. p. 178.

† See page 3.

nals, and observations of husbandmen, and mariners, in other countries, which support the physical agency of the moon *.

I agree with him, that there is abundant absurdity in taking so great a portion of the moon, for peculiar effects. It certainly is not from my experience, justifiable at the quadratures; and though I admit her influence at these times, yet I have never found it decisive in great events, as at the change and full; the lunar periods which more immediately concern the objects of this treatise.

But though I am no Endymion, and admire the dissertation of this most learned Prelate, yet I must ask for a little more latitude, than perhaps may be allowed me, at these synodical, and panselenical periods of lunation.

By the new, and full moon, I comprehend three days either before, or after these periods. Within that space, sometimes before, and sometimes after the precise point of lunation, taking that as a medium, I have ever found her influ-

---

* Musschembroek says the weather, in the winter time, in Holland, changes, and varies almost regularly, and after some almost uniform manner, according to the phases of the moon. No. 1520. Phys.

ence greatest on the human frame.—That it is so upon the tides, is well known to every person.

Ptolemy, and the ancients all allow, and demand this time, for lunar influence *. Galen says, the period of the new moon, occupies nearly a whole sign in the zodiac †; and Ptolemy again contends strongly for the same length of time, for effects, at the quarters ‡.

In the division of her monthly power on the tides, to speak in a general way, we find that at every new, and full moon, for several days, the tide is higher then, than at any other time; and at the quadratures, that it is in its lowest state.

In the first she has, it is true, the assistance of the sun. They then conspire together, and being in the same line with the centre of the earth, their united forces produce what we call the spring tides.—Here the power of the moon

---

* Προ τριων ῾ημερων ἢ μετα τρεις ῾ημερας παροδοις, τὼν τε συνοδων και πανσεληνων και διχοτομων. B. ϐ. K. ιγ.

† Πολυς δ᾽αυτος ὁ χρονος ὁ της κρυψεως εστιν ολου σχεδον του ζωδιου. Περι Κρισιμων Ημερων. B. γ. K. γ.

‡ Ου μονον των συνοδικων ἢ πανσεληνων, αλλα και τω, κατα τας διχοτομους. B. ϐ. K. ιε.

exceeds that of the sun, as four and a half to one, nearly.

In the latter, the sun diminishes the effect of the moon's action; and raises the water, where the moon depresses it. Therefore the tides then are least, and what we call neap tides.

She has besides this monthly, and greater influence, an imitative, or daily effect on the tides; following her apparently diurnal course; and is thus shewn.

The water ascends with the moon, and endeavours to reach its highest point, as she ascends to the meridian above our earth; and also as she arrives at the diametrically opposite point, or greatest height under our earth; and that the water descends with the moon, and endeavours to be at its lowest, or ebb, when she is at the two horizontal points, or quadratures of her diurnal course. Thus it happens that there is twice high water, and twice low water, in every revolution of the moon; or in about twenty-four hours: and for certain causes, explained by astronomers, the tides are later every day by about forty-eight minutes, than on the preceding day.

But from the motion of the earth, on its axis from west to east, the most elevated part of the water does not answer precisely to the moon; but is carried beyond her, towards the east; in the direction of the rotation.

The water continues to rise after it has passed directly under the moon, though the immediate action of the moon there begins to decrease.

So it is in regard to the effects of the sun. The greatest heat of the day is not at the time when the sun is on the meridian; but after he has passed it: about three o'clock in the afternoon *. It is the same in respect to the greatest heat in the year; which is not on the solstitial day, when the immediate action of the sun is greatest; but about two months after †.

Thus the greatest elevation of the water is not directly at the points which are in a line with the centres of the earth and moon, but about half a quadrant to the east of these points; and the moon therefore is always to the west of the meridian, of the parts of the greatest elevation.

---

* See page 3.

† See page 4.

This is the general law of the rising and falling of the waters of the globe; as they appear in various places, obeying the superior attraction of the moon. They correspond with the tides, produced on the western coasts of Europe in the Atlantic,—of Spain, Portugal, and the west of Ireland. There it is high water, about the third hour, after the moon has passed the meridian.

The same principle governs the spring tides. They are not highest on the day of conjunction, or opposition; but a day or two after.—It is the same with the neap tides, at the quarters.

But this rising and falling of the waters of even the ocean itself, in many places, is subject to irregularities; from the situation of countries; the interposition of islands; currents; head lands, and winds.—In respect to rivers, and the flux and reflux of waters remote from the sea, the tides will appear, according to the distance therefrom; and the difficulty, and oppoſition, they may meet with in their course.

For example;—it is high water in the ocean twelve hours, and at Calais and Dover, four hours and a half, before it is high water at London bridge.

In respect to the moon's impression on mankind, perhaps a distinction might be made, in regard to the most influential part of her orbit; but hitherto I have not remarked it; and have found her effects invariably the same, whether in her apogee, or perigee; or whether swift, or slow in motion; or whether in the Mediterranean, or in the West Indies, where the tides are too inconsiderable, to affect the current of the atmosphere, by their elevation, or depression.

These things premised, I shall proceed to the facts I have to offer; to prove the influence of the moon, on the inhabitants of the earth,—relative to diseases, and death.

In my discourse on the climate of the West Indies, I have observed that the sick, at Kingston, in Jamaica, in 1777, were affected in the head, at the change and full of the moon; that her influence was evident in attacks, crises, and relapses; that I had before often noticed it;—but never found her power so manifest, and in such various ways, as in that year.

It was a very sickly and irregular year in general. The negroes labouring under fevers, suffered in the head, at the periods mentioned; more I thought, than even white people.

January was as usual, cool and pleasant; and the remains of the preceding autumnal diseases, furnished the practice of this month. Inveterate intermittents, which had not yielded to bark, in bilious habits, were cured by purging with magnesia and limonade, occasionally; and giving chamomile flowers, and snake root in powder, every hour, in the intermissions.

On the eighth, and on the ninth of the month the day of the new moon, there was a tremendous north wind; it lasted these two days only.

February was remarkable for sore throats, and catarrhal defluxions; and in this month, the lunar influence shewed itself in several cases of apoplexy, and palsey; and in almost every complaint attended with fever.—Near the full of the moon, there were two days of violent wind from the north.

March was a less sickly month than the preceding.

April was dry; with strong breezes day and night; and uncommonly hot and dusty. It gave rise to bowel disorders; small pox; and chicken pox, to great extent; and towards the end, to convulsive dry coughs, and opthalmies. The thermometer seldom below 85°.—The clouds of dust resembled those in the Lybian deserts.

May was a very wet month; the 5th, two days before the new moon, was distinguished by a deluge of rain, and the loudest thunder ever known. It rained excessively at the full moon, on the 19th, 20th, 21st, 22d, and 23d.

A friend of mine, an eminent surgeon in Kingston, who had for many years a monthly enlargement of the liver, which increased with the moon, and after her full, regularly subsided in a bilious diarrhœa, died this month, on the 23d; the day after the full moon.

In this case, besides the turgessence of the whole body of the liver, there was a soft convex tumour, projecting from the lobe, directly under the ribs, on the right side; which, by the time of the full moon, and before the purging came on, was in its most augmented state, about the size of half a large orange. This totally disappeared, when the liver abated; but always made its monthly return, with the increase of the liver, and the moon.

June produced nothing extraordinary.—There were some cases of yellow fever, among new comers, and European sea-faring people.

July was uncommonly sickly; with the nervous remitting fever; obstinate bilious diseases; and irregular intermittents, not common at this time of the year.

In the beginning of the month, at the new moon, I had many epileptic and paralytic cases; and on the 4th, the day of the new moon, I lost two patients in apoplexy. One was gross, and plethoric, and about sixty years of age; the other was thin, and about fifty.—They were both temperate in their way of living; valuable men, and a great loss to the community.

In August and September, we had the usual diseases of the season; but in a greater degree than ordinary.

In October there was much rain in the beginning, and towards the end. Paralytic disorders were frequent this month; but intermittents were the chief diseases.

One of my family, who had been several years in the island, and never before ill, was attacked on Friday the 31st, being then new moon, with a fever; attended with every symptom of high and extended inflammation.—Bleeding, and other evacuations, from a solution of emetic tartar, *James's* powder, and saline medicines, were used. On the third day of the illness, a cold shivering came on, succeeded by increase of fever; which continued, with abatement every other day, until the seventh; when the fever ended, with efflorescent eruptions over the whole body;—on Friday night the 14th of November, a few hours before the full moon, the fever returned, with a slight coldness, but no shivering. It was checked with bark, and infusions of snake root, and chamomile flowers. On Friday night the 28th of November, a little more than a day before the new moon, it returned again. It was removed; and all other returns prevented, by making great efforts with bark, as I did in many similar cases in my public practice, three days previous to every new and full moon, for some time.

It rained in Novmber every day from the day before the full moon, the 14th, to the day before the new moon, the 29th. In this month intermittents became numerous, aggravated with the wet weather; and continued the prevailing diseases through December. In this month, in 1778, the yellow fever carried off several new comers at Kingston; among others, Captain Grafton Dulany, a young gentleman of considerable family in Maryland, a few days after his arrival with his regiment, from North America.

It was not in this year 1777 only, that I found the same powerful effects of the moon, between the tropics, at her change and full; but I give this year by way of illustration, as it was that, in which I first promulgated the doctrine of lunar influence in the West Indies; and also to avoid the necessity of resorting to a repetition of instances, in that part of the world. Since that time, I have seen some of my opinions adopted, without acknowledgement, in several publications. But prior to that year, the influence of the moon had never been noticed there, in any respect whatever. As to the principal subjects of this treatise, if my reading do not deceive me, they now make their first appearance on the stage of medicine.

In 1780, all the soldiers in the military hospitals in Jamaica, under my care, in dysenteries and intermittents, almost constantly relapsed at the lunar syzygies; and at *Up-Park,* in November, several people died suddenly, in convulsions, that were seized at the new and full moon, with the pestilential fever, then making dreadful havoc in the camp *. Most of the men attacked at these periods, who escaped death, lost their memory for a considerable time.—They forgot their names, and the regiments to which they belonged.

In the same year, in the month of April, 87 men out of 200, on board the Hinchinbrooke sloop of war, at *San-Juan* river, were attacked by a malignant fever, within the space of a few hours, in the night, at the full moon; and nearly all of them died.—Many of the survivors on this expedition, among the troops, became insane, after their fevers †.

Between the tropics, and in all hot climates, the moon has more corruptive power, than in northern latitudes.—Meat and fish, there putrify in a few hours at all times; and almost immediately, when exposed to the moon.—Sailors know this; and take precautions accordingly.—A dead carcase exposed to the sun, and full moon, will in a day or two, be converted into a living community of maggots.

---

* See page 200. † See page 188.

MACROBIUS says, the flesh of the wild boars brought to him to Rome, that were killed in the chase in the full moon, soon putrefied; but the flesh of those killed in the day time, kept extremely well.

KIRCHER found by experiment at Rome, in 1638, that a piece of meat, left all night in the moon light, will by the next morning be so corrupted, that viewed by a microscope, it will appear like a mass of animalcula *.—In this, the learned KIRCHER may be believed.

Negro women in the West Indies with sore legs, a complaint to which they are much subject, when obstructed, frequently have monthly discharges of blood for several days, from the ulcer at the new, or full moon.—This was the case with a young woman lately under my care at Chelsea. The ulcer on her foot became tumid, and discharged blood every full moon †.

I have frequently seen the ulcerated legs of negroes, to ooze with blood, when they have been sleeping, or long exposed in the moon's light; when the partial covering of the sore has been only a piece of old rag, or perhaps no covering at all.

---

* De Peste, p. 42. † See page 103.

ALEXANDER BENEDICTUS says, when he was in Crete, he saw some people deprived of the use of their limbs, by sleeping only one night in the full moon *.—MACROBIUS notices the danger of exposing the limbs of children to her rays.

I have known similar mischief to happen often between the tropics; and indeed have myself experienced some disagreeable effects from indulging in the luxurious sopor of moon light.—There the bright splendour of the moon, in her vertical journey through the sky, ravishes the senses of new beholders,—from gloomy European regions.

My learned friend Sir Richard WORSLEY, in his laborious travels to collect the materials for the MUSEUM WORSLEYANUM;—a work precious to men of letters, an honour to his country,—and to his fame, an eternal monument of refined taste, extensive knowledge, and matchless perseverance,—found the inhabitants of the African coast of the Mediterranean, of the Levant, and Ægypt, and more especially of Upper Ægypt, were well acquainted, that the diseases of the eyes and skin, to which they are so much subject, increase and decrease with the moon.

---

* Lib. i. c. 33.

This curious fact, confirmed to me by travellers in Arabia also, has escaped the notice of all the medical people who have lately been in Ægypt; both French and English. — PLINY mentions the same phænomenon as to the opthalmies in cattle; corresponding with what the writers on the diseases of horses call Moon Blindness, or Lunatic Eyes.

The inflammation, in this singular disease, is well known to increase with the moon; and that it abates, and frequently entirely disappears, for weeks and months together; but when it makes its return, it is from the new to the full moon; until it is cured, or ends in blindness.

Gibson, in his Farriery, denies this; and, like most uninformed people, because he could not discover it, supposes it does not exist, and considers it as a superstitious notion. But more correct and experienced farriers than *Gibson* know this is the case, even in England. In Southern climates no person disputes it, who knows any thing of horses.

I had lately a patient, who for twenty years had a monthly discharge of blood, from the hæmorrhoidal vessels; and until he consulted me, he was not in the least apprized that it regularly happened at the full moon.—Some years since, this discharge suddenly ceased; and he was attacked, in the Irish House of Commons, of which he was an honourable member, with an apoplectic fit. From that time he has been grievously afflicted with a difficulty of breathing, and an asthmatic cough; attended with an immense disgorgement of mucus.

Apoplexies, and palsies, are very common among aged people; and in the course of fifteen years at Chelsea Hospital, I have rarely known an instance of either of these disorders happening at any other time than at the change, or at the full of the moon.

In May this year 1803, I was called to a patient in an apoplexy. He was attacked a few hours after the full moon, which was in the night of the 6th. He died on the 10th*. —On the same day that he was attacked with the apoplexy, a neighbour of his was seized with an hæmorrhage from the lungs; and brought up, on that and the two following days, a quart of blood. On the 20th of the same month I was sent for to another gentleman, who was attacked with an appoplexy in the preceding night, at the very moment of the new moon.—He died on the 24th *.

---

* Mr. *Atwick*, aged 75, in Beaufort Row, Chelsea. He was short-necked and plethoric.

In July, 1799, at the full moon, a lady, about forty years of age, of an habit of body no way remarkable, was stricken with the palsy; and totally deprived of the use of her right side. Her intellects and speech were taken away. Her brain and articulation remained impaired for nearly two years; and then gradually grew better. She recovered the power of arranging her ideas entirely, and at length her speech had but little impediment; and she could walk without assistance.

On the 15th of July this year 1803, she complained of a confusion in her head, and great weakness in her knees; which symptoms increased alarmingly until the 17th, the day before the new moon. On that day, and the two days following, she voided upwards of a quart of blood from the hæmorrhoidal vessels; and was as well afterwards, as she was before the ap-

---

* Mr. *Haig*, aged 76; at the house of a respectable surgeon, in St. Martin's Lane. This gentleman was short-necked and plethoric.

proach of this intended tempest.—She never had any hæmorrhoidal complaint anterior to this time.

On the 17th also a Colonel in the army was seized with an apoplexy, and died suddenly, in the island of Jersey.

Happening that day to read the Calcutta Gazette, I saw the death of a General officer announced, from a stroke of the palsy, on the 25th of December last; this was the day after the new moon.

On the 17th of August 1803, the day of the new moon, a pensioner in Chelsea Hospital, aged 85, was stricken with an hemiphlegia. The paralysis was on the right side. On the same day a gentleman had exactly a similar palsey at South End, in Essex.—He is still living. The pensioner died on the day of the last quarter of the moon.

It has already been observed, that I have seldom known apoplexy, or palsey, to happen at any other time than at the change, or at the full of the moon.—I mean when these diseases prove fatal; or cause a lasting destruction of the power and motion of parts. For I have seen many palsies make their attacks at other times; but they are generally of a milder kind; seldom degenerate into catalysis, or apoplexy; and are frequently remedied to nearly pristine health; and sometimes entirely.—Of this I have many examples.

However, I cannot call such disorders paralytic, which MEAD says, "have their monthly returns." These are hysterical affections; or of the tribe of pathemata*. The real palsey is never periodical; and is, what the word imports.—I do not infer by this, that all die who are attacked with palsies at the change and full. That is not the case. I have known several survive a paralytic stroke inflicted at these times, and live to great age afterwards. I had lately a pensioner under my care, who was stricken with an hemiphlegia,—the right side—at the full moon, in March 1774; and though he never recovered the use of the side, except to walk in a dragging sort of way, he was in perfectly good health ever since, until a little time before his death; which was on the day after the full moon, at the end of September, 1803.—This man was drunk for the greater part of the time, of the ten last years of his life. He frequently drank gin to the amount of a quart, or three pints at a sitting.—Such instances of drunkenness, from spirituous liquors, the favourite drink of old soldiers, having no injurious effects in palsey, are not uncommon among us.

---

* See page 482.

Sir John **Floyer** says, "it is observed by seamen, that if there be any bad weather in a month it usually happens two or three days before or after the full or changes of the moon; which is the reason why asthmatic fits happen at those times."

Among our asthmatic pensioners, I frequently observe the paroxysms aggravated at these periods; without any apparent change in the atmosphere.

Habits of plethora, and inanition, appear to be equally susceptible of the moon's influence. It is the cause of syncope, as well as hæmorrhage. It acts upon the tides in the brain, as on the tides of the heart.

The remote cause of many indispositions and diseases, is, as they say of wit,—"much talked of—not to be defined." But the immediate cause, is oftener to be found in the moon; nay in a cloud passing over the house, than in the jargon of nosologists.

Every person has perceived a sense of coldness in travelling, or walking, or lying on the deck of a vessel at sea, in the great light of the moon, while a dense cloud was passing over her; at least I have often noticed it in equatorial regions.

People with weak fibres, and much irritability of system; bodies on which little things make great impression; and such as feel every alteration in the atmosphere, are affected by the rays of the full moon;—for one of her attributes, like conceit,

"in weakest bodies, strongest works."

The nervous, and hysterical; and people of feeble stamen, and vertiginous heads, are always more or less, disturbed at her change, and full.

Sensitive spirits, and highly animated dispositions, such as would think,—

—"it were an easy leap
To pluck bright honour from the pale-fac'd moon,"

as well as the hypochondriacal, and melancholy, are frequently much agitated at these periods; and view the occurrences of life with levity, or despondency; or with some selenetic reverie, that imposes on the fancy, in whims, and vagaries.

Hence suicide, and rash actions. For the moon, according to MEAD, exerts her greatest influence, "on the nervous fluid or animal spirits."

AVICENNA asserts, that the instruments of the soul of man, have different places of residence in the brain. Imagination, and common sensation, in the anterior; thought, and judgement, in the central; and memory, in the posterior part of the ventricles *.

By the disagreement and want of connexion, we often see among the mental faculties, it is evident they do not all dwell in the same house. I have seen the moon make a great commotion among the offspring of the anterior part of the brain, which could not have happened, with the intervention of the other powers.

---

* Lib. iii. fen. 1. tract. 4. c. 11. 12. 14.

This doctrine ought to be pleasant to every body; but I know it will not.—Many people had rather derive their mutabilities from themselves, than from the moon.

The apprehension of being thought a lunatic, will not suffer them to be told, " that trifles light as air," which often give them a great deal of vexation, will end, when the moon has travelled a little further.

If there is any disgrace, in being subject to her influence, it is a disgrace of so extensive a nature, that, madness excepted, on which it has no effect, unless the insanity of mind be united with some other affection of the habit, or attended with fever—it pervades the whole terrestrial creation.

Almost all people in extreme age, are attacked with their death illness, or die at the new, or at the full moon.—In consumption, and chronical diseases, it is commonly the same.

Of the young, and middle-aged, and those who die of acute diseases, or the result of accident, no estimation can be made correctly;—death being often retarded, or accelerated, by interruption, or medicine. But even here, if they do not die at the syzygies, they generally die at the quadratures.

As physician to His Majesty's Royal Military Hospital of Invalids at Chelsea, I have a greater field of gerontocomia, and more opportunities than any other person in Europe can have, for observing the natural termination of alliance, between the soul and body of man.—Where time, and not disease, has mouldered away this earthly fabric; and rendered it uninhabitable to that tenant, which never decays.

Our pensioners enter here, according to the vacancies. But none under the age of sixty;—and these are selected from the most proper objects among the out-pensioners of the establishment; the number of which is 23,688 *.

The average deaths among 476, the number of our house invalids, is about 60 annually †.

---

* At Midsummer, 1803.

† Since the establishment of the Hospital in 1692, to the 23d of May, 1803, there have been 6766 deaths.

Of twenty-four instances of deaths, of men between the age of 85 and 100, which have come under my knowledge within these few years, thirteen died at the new moon; seven at the full moon; two at the first quarter, and two at the last quarter.—Many of these events happened on the exact day of the lunar periods I mention; and none that exceeded 48 hours from them.

My predecessor Doctor MONSEY died here, in his 96th year; a few hours before the new moon, in December, 1788. He had been physician to the Hospital 46 years and 6 months.

Not satisfied to send this account into the world alone, unsupported by any corroboration, I examined another institution for aged people: the Hospital for French Protestants and their Descendants, in Old Street, St. Luke's.

This is the largest charity for aged people in England. None are admitted, according to the establishment, under the age of sixty.

The average number of which, for the last twelve years, to the 1st of January 1803, has been 162 residents in the Hospital; and the average of deaths of the most aged, that is, those between the age of 70 and 100, has been nearly 17 annually: the whole number of deaths exceeding the age of 70, being 201.

Of these 201, seventy-four died at the full moon; and sixty-one at the new moon. The remaining sixty-six, seven excepted, died at, and within forty-eight hours of the quarters.

I observe in this asylum, where there are considerably more females than males,—about 3 to 2,—that the full moon has the superiority in influence. At Chelsea Hospital, where there are none but males, the new moon has the superiority. The inference requires consideration.

Let us compare these statements with the deaths of the most remarkably aged people that have been known in the world; and recorded in history.

Thomas Parr, or old Parr as he is called, died on the 15th of November, 1635, aged 152, two days after the full moon *

Henry Jenkins died on the 2d of December 1670, aged 169, on the day of the new moon.

---

* He had a child when he was 120 years old. See p.105,106.

Elizabeth Steward, a pensioner in the parish of St. Giles's, London, died on the 1st of May 1725, aged 124, on the day of the new moon.

William Leland, of Warrington, died on the 7th of December 1732, aged 140, the day after the new moon.

John Effingham, of Penryn in Cornwall, died on the 6th of February 1757, aged 144, two days after the full moon.

Elizabeth Hilton, died at Liverpool, on the 26th of October 1760, aged 121, two days after the full moon.

John Constant, died on the 16th of January, 1763, aged 113, two days after the new moon.

If we appeal to the deaths of people not remarkable for the greatest age, we shall find that the influence of the quarters bears but a small proportion to that of the change and full.

I take the following distinguished persons, as their names occur to me, without any idea of selection to favour the occasion, as will plainly appear.

Chaucer died on the 25th of October 1400, on the day of the first quarter of the moon.

Copernicus died on the 24th of May 1543, on the day of the last quarter.

Luther died on the 18th of February 1546, three days after the full moon.

King Henry VIII. died on the 28th of January 1547, on the day of the first quarter.

Calvin died on the 27th of May 1564, two days after the full moon.

Cornaro died on the 26th of April 1566, aged 100, on the day of the first quarter.

Queen Elizabeth died on the 24th of March 1603, on the day of the last quarter.

Shakespeare died on the 23d of April 1616, the day after the full moon.

Camden died on the 9th of November 1623, the day before the new moon.

Bacon died on the 9th of April 1626, one day after the last quarter.

Vandyke died on the 9th of December 1641, two days after the full moon.

Cardinal Richelieu died on the 4th of December 1642, three days before the full moon.

The illustrious Doctor Harvey died in the night of the 30th of June 1657, a few hours before the new moon.

Oliver Cromwell died on the 3d of September 1658, two days after the full moon.—There was a violent tempest that day.

Milton died on the 15th of November 1674, two days before the new moon.

The renowned Doctor Sydenham died on the 29th of December 1689, two days before the new moon.

Locke died on the 28th of November 1704, two days before the full moon.

Queen Anne died the 1st of August 1714, two days after the new moon.

Lewis the 14th died on the 1st of September 1715, a few hours before the full moon.

The Duke of Marlborough died on the 16th of June 1722, two days before the full moon.

Newton died on the 20th of March 1726, two days before the new moon.

King George the First died on the 11th of June 1727, nearly three days after the new moon.

King George the Second died on the 25th of October 1760, one day after the full moon.

Sterne died on the 13th of September 1768, two days after the new moon.

Whitfield died on the 18th of September 1770, a few hours before the new moon.

Swedenborg died on the 19th of March 1772, the day of the full moon.

Linnæus died on the 10th of January 1778, a little more than two days before the full moon.

The Earl of Chatham died on the 11th of May 1778, the day of the full moon.

Rousseau died on the 2d of July 1778, the day after the first quarter.

Garrick died on the 20th of January 1779, three days after the new moon.

Doctor Fothergill died on the 26th of December 1780, the day after the new moon.

Doctor Samuel Johnson died on the 14th of December 1784, two days after the new moon.

Captain Richard Boyle died on the 14th of October 1788, a few hours previous to the full moon *.

Doctor Franklin died on the 17th of April 1790, three days after the new moon.

Sir Joshua Reynolds died on the 23d of February 1792, the day after the new moon.

The Earl of Guilford, father of Francis, the present most worthy Earl, died on the 5th of August 1792, three days after the full moon.

---

* See page 564. He had a regular lunar eruption of blood from his lungs;—generally at the full moon.

Doctor Warren died on the 23d of June 1797, a day before the new moon.

Burke died on the 9th of July 1797, at the instant of the full moon.

Macklin, the actor, died on the 11th of July 1797 (aged 97) two days after the full moon.

Wilkes died on the 26th of December 1797, on the day of the first quarter.

General Washington died on the 15th of December 1799, three days after the full moon.

Sir William Hamilton died on the 6th of April 1803, a few hours before the full moon.

Here we see the moon, as she shines on all alike, so she makes no distinction of persons, in her influence;

"—— æquo pulsat pede pauperum tabernas,
Regumque turres *."

---

* Hor. Lib. i. Od. 4.

If any person will take the trouble to look on the tomb-stones of the most aged people in the church-yards, having a series of ephemerides with him, he will in a few minutes satisfy himself of the lunar termination of longevity; and further prove the truth of what I have asserted;—that "almost all people in extreme age, die at the new, or at the full moon;" and that "if they do not die at the syzygies, they generally die at the quadratures;"—within the limitation of time I have stated, for the operation of lunar dominion.—This is the monthly or greater influence.

But there is also a minor, or diurnal influence on bodies, as on the tides*.

People dying at the turning of the tide, as it is called, so insisted on by ARISTOTLE, has been in all ages, and countries, a popular opinion.—Mariners, and inhabitants on the borders of the sea, and great rivers, where there is a considerable flowing and ebbing of the waters, always believe in it.—Nay more; they generally find it true.

---

* It has been discovered by the French astronomers, that two minutes of variation in the diameter of the moon, corresponds to two feet eight inches in the whole tide, in Brest Harbour.

I had in August 1803, a patient on the sea coast, who was attacked on Friday the 6th of May, the day of the full moon, with a despondency, bordering on distraction of her senses. Before this she was an healthy woman. This affection abated; but returned more violently, at every new and full moon, since that time. She has besides this, monthly,—diurnal exacerbations; which she herself first discovered to happen, regularly at the turning, or reflux of the tide. And she can, and often does mention, from the distress of her sensations, and from no other information whatever, when the tide is beginning to recede from the shore, by night, or day.

Births, as well as deaths, are under lunar influence, and are generally thought to be facilitated, by the new and full moon; especially by the latter.—For which reason the Greeks and Romans gave her appropriate appellations; and made her the president of child birth *.

Conception also, is not foreign to lunar influence.—It is supposed most likely to take place, at, or a little before the full moon; where menstruation occurs at the new moon.

---

* Λοχεια. Parturientium Fautrix.

—Much might be said here, if individuals, and not Nature, who is never destitute of heirs, were the theme of our treatise.

> "There are more things in heaven and earth,
> Than are dreamt of in our philosophy."

It has always been a maxim among meteorological writers, that the influence of the moon on the weather, is affected by the conjunctions, squares, and oppositions of other planets.

If this be true, and that the atmosphere, the fluid in which we live, be subject to changes from these causes, it is rational to conclude that the human frame must be so likewise.

On the 2d of February 1791, the river Thames rose higher than had ever been remembered; and overflowed the road, from below Ranelagh to Pimlico, so as to make it impassable, but in a boat.

There were neither storms, nor any more rain in January than usual, when there is no frost; which was the case that month.—There was no rain from the 28th of January, to the 11th of February.

It was on the day preceding the new moon. On which day, and the following, she was not only in conjunction with the sun, but with Mercury, Mars, and Venus.

From the change of the moon, and the time of the year, a considerable spring tide was to be expected; but here was a rising of the river, such as never had been known before, in any equinoxial lunation, even when succeeding the greatest rains, with Eastern winds.—Perhaps the addition of the three other planets, to the attraction of the sun and moon, was the cause of the phænomenon *.

Whether such conjunctions, or the aspects of any planets, have power to increase, or diminish the influence of the sun or moon, so as to cause changes in the air, which produce diseases, and alterations in the human body, is not at present under consideration.

Galen thought they had; and the Ægyptian, Chaldean, and Arabian physicians, and astronomers, thought the same.

---

* There was another remarkable flood in the same road, from the rising of the Thames on the 8th of November 1798: but not so considerable as this. Then also it happened on the day of the new moon, with the conjunctions of Venus, and Mercury; but without the aid of Mars.

I hope every person will be satisfied, that I offer this essay merely as an outline. I am certain it will be so taken, by the learned, and candid. The subject, I have no doubt, will come under the consideration of medical men, who travel in various countries, and climates; and of such as are not absorbed at home, in that *alma mater* felicity, which profits better by forms, than by principles.

The completion of my design requires leisure, and astronomical knowledge; as well as practical observations in medicine; and I particularly look to the philosopher, and physician, who reside in intratropical countries, and southern climes, as best suited for the purpose; and where also the human frame is most susceptible.

To those, likewise, who live on the borders of the ocean; and near extensive rivers, where great tides prevail, I address my subject.

From these sources, I shall be happy to draw information.—It is they who can,—

> " ———— what in me is dark,
> Illumine; what is low, raise and support."

Thus, on some future occasion, much more extensive investigation, and important discovery subservient to infinite use in the practice of physic, may take place.

It would tend to convenience, as well as precision, in ascertaining the influence of the moon, if medical journals were kept by her age, accompanying the calendarian time; and dating all attacks, symptoms, crises, relapses, and events accordingly.—This is not a new way of employing the moon. For this purpose, among others, was she ordained *.

By this method, practitioners would pursue a more certain guide; and determine what periods of the moon most affected particular diseases; and in what months she was most remarkable in her effects.

Should it be urged, that this is an innovation in physic, my answer would be, that the science of medicine wants some innovation; and never was in a more languishing state, all over Europe, than it is at present.

---

* עָשָׂה יָרֵחַ לְמוֹעֲדִים Psalm civ. v. 19.

We certainly understand the operation of medicines, but make no progress;—and know no more of epidemical diseases, or their causes, than the inhabitants of Soldania.

Nor do the present theories, and practice, lead to the discovery of useful knowledge.

Simplicity, that is, expunging the powerful, and substituting weak and ineffectual means in our medical forms, is now the order of the day. The strong, sensible instruments of medicine of the ancients, are laid aside; and like their armour, are viewed with astonishment, by their feeble posterity.

It is admitted however that we in England, treat diseases more correctly than any other European nation; and on that account the profession here, stands higher in estimation.—Yet diseases were as well managed a century ago;—and I believe better: and equally so two thousand years ago.—But if we in England have any superiority, it is only in not relapsing so fast as our brethren, in most other countries;—where, without some new impulse, more animating than their wretched remuneration, the professors and profession, are likely to retrograde together, from the Apollonian system.

In England, from the nature of our climate, the moon, sometimes for months together, is out of sight; and according to the proverb,—out of mind.

People living in great cities know nothing of the moon; and there are a multitude of learned persons, not only in the profession of medicine, but in every other science, and in important stations, who never think about her at all [*].

The Arabian adage is lost on them. They seldom travel far by moon light [†].—Such men will pay no more respect to the divine ARISTOTLE and GALEN, than they would to two old Bohemian gypsies.—From them, I have but little to expect; and only to hope, that the opinions I have cited, will not be attributed to me; nor the facts I am relating to others.

It is possible however, that the ~~materia~~ls have collected may be considered, by such people, as curious; but of no utility in medicine.

---

[*] In naval military expeditions, exclusive of diseases, how many disasters have been fatally experienced by storms and tempests, from inattention to this planet especially at the equinoxial seasons of the year.

[†] لليل طويل وانت صقمر

Here I must remark, though we cannot, like VIRGIL's incantations*, fascinate the moon from her orb, yet if by knowing the time when certain causes produce uniform effects in generating diseases, and the periods when relapses are to happen, that disorders cannot be palliated, or prevented, there is great reason to suspect the service of medical pilots in other cases, where the beacons are less obvious.

But this can be done; and the mischief of hæmorrhages from the lungs, a dreadful disorder in England,—which, in the ordinary methods pursued, invariably end in consumption, may be effectually prevented at first; by taking proper measures, three days before every new, and full moon; and continuing the regimen, and precautions, three days after each period, until all disposition to hæmorrhage ceases.

By these means I have cured a great many people; and have long protracted, in incurable cases, the lives of others.

Short-necked, comatose, plethoric, gross people, where any mischief is latent, are always affected near the new, and full moon. Such habits should be carefully watched a few days previous to these periods; and if any symptom, indicative of apoplexy be observed, how easily is the storm prevented,—by bleeding; cupping; purging; revulsion; abstinence: — or such prompt measures as the case may require.

---

* Carmina vel cælo possunt deducere lunam.
Ecl. viii.v. 69.

In paralytic disorders, so lamely defined by nosologists, the head is constantly confused, and giddy, for some time before the attack; and there is always a weakness in the knees. This sudden failure of the strength of the knees, has never been noticed, in medicine, before*. But it is, if accompanied with any disturbance in the head, particularly near the new moon, the certain fore-warning of some great change, which the habit is about to experience; and in extreme age, it presages death.

In people disposed to palsey, or such as have already had some paralytic affection, this is the time to take alarm; and with vigilance, the blow may be warded off; — beginning with an emetic of ipecacuanha; with horseradish

---

* It has not escaped the acumen of the poets. HOMER makes Agamemnon wish Nestor had as much vigour in his knees, as in his head; and HORACE was for living well, and making the most of his time, "dum virent genua;"— while his knees were strong.

radish infusion, in its operation. Afterwards, such steps are to be pursued, as symptoms require; with, among other things suitable to the occasion, tincture of black pepper, volatiles, and oil of amber. By this method, I have frequently kept off palsies for years; and sometimes until solid health has returned.

Disposition to apoplexy, and particularly to palsey,—like the cessation of the menses, or the fluctuation, or departure of the gout, or hæmorrhoids, or any habitual discharge, or cutaneous eruption, or defœdation of the skin, —is often only a temporary derangement of health. This survived, a new epoch in the constitution begins.

In epilepsy, the offspring of the moon, what misfortunes daily take place, by the afflicted falling down in the streets, and public places; and from precipices and buildings*:—all of which might be prevented. The disease besides is easily cured, in young people; by attacking it three days previous to every new, and full moon. This I have lately demonstrated, in the obstinate case of a noble youth, in London; by the means of bark, and steel; oil of amber; misletoe, and valerian.

---

* Epileptic, and not insane people are, properly speaking, lunatics, and are so distinguished by some Greek and Latin authors; σεληνιακοι, lunatici.

In St. Matthew, c. iv. v. 24, they are called σεληνιαζομενοι; and in c. xvii. v. 15, the woman presenting her son to be cured of an epilepsy to Jesus, says to him, σεληνιαζεται, "he is a lunatic;" adding, that "he oftentimes falleth into the fire, and into the water."

The family of this young gentleman were much surprised at my foretelling the days of the return of the fits; until I informed them on what they depended.—Before this, he had several times nearly lost his life at Woolwich; when on night duty.

In St. Vitus's dance also, the influence of the moon is evident. I have lately had three patients in this disorder, at Chelsea; two boys, and one girl.—Their gesticulations, and agitations, were always increased at the new, and full moon.

The termination of life, as well as the occurrences and event of diseases, is often to be foretold, referring to the moon.—A recent important proof of this fact, is well known to many people.—But lunar symptoms must be distinguished from those, which are the ordinary satellites of diseases.

By knowing the probable period of the death of aged people, and of those labouring under chronical, and flattering decays of nature; and of the attacks of such as have frequent warnings of palsey, or apoplexy, and other diseases wherein the moon has peculiar influence, physicians may not only procrastinate the evil hour, if more cannot be done, but they may sometimes become the salvation of the happiness of families; where wills and testaments, and the concerns of domestic arrangements, as is often the case, have been neglected.

It is far from my ideas, to wish to inculcate the idle conceit of knowing more than other people. I am for no prognostication that is not founded on observation, and confirmed by experience.—

Predictions, on any other principle, unless there be credulity to practise on,—when the witch's

"pricking of her thumbs"

has proved fallacious, always end in exposing ~~the~~ prophet.

Having said all that I intended relative to medicine, concerning the influence of the moon on our globe, let us take a view of her in a more pleasing light—

"walking in brightness *,"—

through her cœlestial course.

---

* Job, c. xxxi. v. 26.

It is not to be supposed that the Almighty destined this beauteous orb, so regular, and so sublime in her eternal majestic serenity, for the affliction of his creatures.

Her warnings, in the diseases I have mentioned, if not attended to, are our reproach; and it is possible, that her presiding over death, was intended for wiser designs than we can penetrate. Her influence here, may be for the purpose of soothing and tranquillising; and even for shortening, the sufferings of dissolution.

We all know that she was appointed—

> " for signs, and for seasons, and for days, and years *."

She is—

> " the lesser light, to rule the night; and is, set in the firmament of heaven, to give light upon the earth †."

The Greeks celebrated their marriages either at the new, or full moon; and no marriage was considered as lucky, performed at any other time; the moon being esteemed by them as the prolific source of generation.—They had other reasons also.

---

[*] Gen. i. 14.

[†] Ibid. v. 16, 17.

The Spartans held the moon in the utmost reverence. Nothing could induce them to engage in any affair of moment, either in peace or war, however pressing the occasion, until the full moon appeared, to give her propitious influence to the undertaking.

The Romans kept their festivals, and had their sacrifices on the day of the new moon *; and their patricians wore a crescent on their shoes, as a mark of superior distinction.

Among the savage African negroes, who have no idea of infringing on the state of nature, their women are remarkably decent at the menstrual periods; when they consider themselves under the influence of the moon. At these times, negro women,—as was the case among the female Jews, according to the Levitical law,—are deemed unclean; and separate from their husbands; and are not permitted to touch any meat intended for food, or to dress it for diet.

It is considered as a very heavy curse, and excites indignation almost to insanity, to de-

---

* Nascente lunâ. HOR. Od. xxiii. 2. The poet, at a feast, drank a bumper in honour of the new moon:—

"Da lunæ properè novæ." Lib. iii. od. 19. 8.

nounce an African woman at such a time, for the moon being upon her,—as they term it.

This custom extends to the Cape of Good Hope; and prevails amongst the Hottentots. There, it is the highest crime for a husband to have any connexion with his wife, or even to live with her, interdicted by the moon.—They worship the new, and full moon; and have their dances, noises, and religious honours, and invocations to the moon, whole nights in the open fields, at her full. They consider her as the dispenser of rain and fair weather.

The moon, for—

> "the precious things put forth by her *,"

was more honoured by the Hebrews, the chosen people of God, than the sun itself; and according to his commands, they dated, and divided their time; and regulated all their affairs, by her revolutions.

Their offerings, sacrifices, and festivals,—except the feasts of seven days, passover and unleavened bread, which were held at the

---

* וממגד גרש ירחים Deut. xxxiii. v. 14.

full moon,—were made on the day of the new moon; and that day was hallowed as a sabbath.

It was " the PRINCE's part to give burnt offerings, and meat offerings, and drink offerings, in the feasts, and in the new moons, and in the sabbaths, in all solemnities of the house of Israel *."

At one of these new-moon festivals, Saul was under lunar influence; for he intended to have murdered David: even that David, whose throne was to be established—

" for ever as the moon †."

When we reflect on these things, we can scarcely believe that the present moon is the same, which shone in the days of old.—It is true her aid is sought in navigation; otherwise, she now wanders round the earth for little more, than the amusement of juvenile astronomers.

---

* Ezekiel, c. xlv. v. 17.

† כירח יכון עולם. Psalm lxxxix. v. 37.

INDEX.

INDEX.

A

PAGE

ABERCROMBIE, general, mortality of troops under his command in 1796 184
Abstemiousness, a security against sickness for youth . 21
Acids, their bad effects 99
———— of their bad effects in dysenteries . . 285
Acosta's account of the deadly winds in the mountains of South America 6, 7, 8
———— of the passage of Pariacaca in Peru . 7, 8
———— of general Costilla losing his toes in the desert of Chili 6
———— curious account of the desert . . 7
Aetius, on the dysentery 313
Aether, in sea sickness recommended 19
Africa, a slave thereof passes on the French court as a prince 116
——— another instance of African imposition . . 118
African breed with European, how to be distinguished 112, 113
——— negroes have no notions of religion . . 119
———— ——— bear fatigue better than Creoles . . 163
Africans, how improved by the West-Indies . . . 115
Aged people die at the change and full moon 620, 621, 622, 623, 625, 626, 632
Agincourt, victory of Henry the Fifth accounted for . 216
Aimar, first used mercurial frictions in the tetanus . . 517
Air at sea, cures owing to it, and not to the motion of the ship 82
—— at Montpellier, remarks thereon 84
—— how to be regulated in hospitals 185
—— what best in fevers 241
—— foul and pestilential, its effects to be guarded against 288, 289
Aix 103
Akenside on the dysentery 372
Algerines and Moroccans, their insensibility of pain . 493
Alligators infest the rivers in the West-Indies . . 52
——— a negro woman killed by one at Jamaica . *ibid.*
Alps 6, 74
Alum 402, 403, 557
America, Spanish, remarks thereon . . 169—171, 173
———— oppressed state of the natives, and their sense thereof . . . . . 177—179
Americans North, predictions as to their designs on S. America 171—173
Amphisbæna snake 35

P.

Animal poison, communicated by the slightest scratch . 40
Animals, European, degenerate in the West-Indies . 113
——— born at the full moon, are healthy and strong - 580
Annaboa, under the line, the cold near it in September . 5
Antillus on the dysentery 315
Antimonials, cautions attending their use 270, 273, 275, 283, 566
——— tendency to operate at the cutaneous pores . 274
——— when not febrifuge . . . . . ' 275
Apoplexy, caused by the moon . 606, 608, 615, 616, 617
Appetite, the effect of water drinking on it 92
Arabic gum-tree introduced in Jamaica 60
Ardent fever—see Endemial Causus.
——— how treated by Asclepiades 57
Aristotle 111, 302
——— his opinion of the moon's influence 571, 573, 574, 575
——— respecting winds and earthquakes . 573
——— says all animals die at the ebbing of the tide . 577
Arsenic, application of it in cancers . , . . 536
——— red sort, given internally by Dioscorides and Avicenna 541
——— drops, given in England for agues . . 541
Art, medical, impediments to its advancement . . 140
Asp, the fatal effects of its bite prevented 40
Asthma affected by the moon . . 619
Astringent medicines seldom proper in fluxes . . 238
Atabalipa murdered by Francis Pizarro 178
Athens, of the plague there, reported by Diodorus Siculus 422
Atmosphere, its transitions, the cause of diseases in the West-Indies . . . . . 68, 69—71, 233
——— its difference in the Western from the Eastern parts of England 75
——— its levity in the West-Indies 88
——— observations thereon 78
——— impregnated with acidity in the W. Islands 100
Autumnal diseases, of those in Jamaica in 1776 . . 194
——— season, the hurricane months 11
Avicenna on the dysentery 320
Avignon 84

B.

Bacon, lord, directions for constructing houses . . 59
——— swooned at the time of any eclipse of the moon 592
Baglivi on the dysentery 357
Baker thereon 387
Barbadoes, of the yellow fever there in 1691 and 1696 421
——— tar 519, 520
Barber's pole serpent 33
Barbette on the dysentery 353
Bark injurious to the brain in fevers 191
——— dangerous in unskilful hands . . 192—194, 197
——— how used by Torti at Modena 195

P.
Bark, when most powerful in its effects 198
—— effects from its injudicious use 125, 192
Barometer 3, 598, 599
Barracks, their construction considered 59
——— where best situated 63
Bath waters in Somersetshire, their use after the belly-ache 546
Bathing, when to be avoided, and when used 23, 90
Bay of Honduras captured by the Spaniards. See Honduras.
Bay sore, a true cancer 532
Bean, Carthagena, an antidote for poison 38
Bedford, duke of, servant bitten by a mad dog 51
Belly-ache, treatise thereon 543
——— its causes, symptoms, and effects 544, 545
——— seldom attacks people newly arrived in the W. Indies 546
——— remarkable instance of it in Mr. John Ellis 548
——— printers and all workers in lead liable to it 551
——— method of cure 554
Bennet, a physician, killed in a duel in Jamaica 138
Bermudas, proper to season troops at 65
Bile always to be carried off to prevent obstructions in the liver 205
Birth, an extraordinary instance of superfœtation 111
Bise, a N. E. Wind 73
Black prince, a slave passes for one at the French court 116, 117
——— not capable of civilization 118, 119
Black snake of the West-Indies 35
Black tongue, a symptom of the genuine causus 413
—— vomiting, a symptom of the same 410
Bleeding, opinion of it in Jamaica when the author arrived there 137
——— when necessary in the flux 247, 282
——— ——— in the yellow fever 445, 447, 449
Blisters considered with respect to the yellow fever, 463, 469—472
Blood, instances of its general state 101
——— sizy 101, 102
Bloody flux—See Dysentery.
——— an account of that in Jamaica in 1780 244—247
Blue mountains, the highest land in Jamaica 70
Boa 25
Boerhaave, his opinions controverted respecting dysenteries 276
Bonetus, his dissections of those who died of the dysentery 231
Bontius on the dysentery 237
Bosman, of the cold under the line 5
Botallus on the dysentery 328
———, great patron of bleeding in diseases 329, 446, 447
Bourbon isle, healthy 131, 132, 529
Boyle, captain Richard, his remarkable hæmorrhage 564—566
——— fortitude, character, and death 566, 567
Boys, being fathers of children 106
Brain disordered from various causes 190

P.
Brain increases with the moon and is rendered moist 585, 588, 589
Breeze, sea 9, 186, 244, 245
Brixen 544
Brocklesby on the dysentery . . . 376
Brunswick, duke of, his expedition against France, in 1792 218
Buccaneers, of their health and successes . 173, 210
Buildings, observations thereon . . . 58—60
Bulkeley, Richard, captain, an officer of great merit on the San Juan expedition . . . 160, 161

C.

Cæsarean operation, a remarkable instance of it . 108, 109
Caius on perspiration in the sweating sickness . 280
Campania 11, 79
Camphire tree introduced in Jamaica . . . 60
Cancers, treatise thereon 531
——— their nature described . . . 532
——— method of cure 533
——— but two modes of treating them known to surgeons 540
——— cautions respecting the method of cure . 542
Canine madness, formerly unknown in the West Indies . 46
——— observations thereon . . 48
——— broke out at Hispaniola in 1783 . *ibid.*
——— method to prevent it in Venice . 49
——— general in Jamaica in 1783 . . *ibid.*
——— particular instances of it . . 50
——— method of treatment . . 51
Carthagena, the expedition against it in 1741 . . 146
——— its climate 5
——— bean, an antidote for poisonous bites . . 38
Cascabeles 32
Cassava, or Cassada 339. 342
Castile fort in Jamaica . . 181, 183, 187, 207, 244
Causus—see Endemial Causus.
Cats, their eyes enlarge or decrease with the moon . 576
Celsus on the dysentery 303
Centipedes 29
Chambery 526
Champagne 219, 258
Chelsea hospital 72
——— number of pensioners . . 623
——— average of pensioners deaths there annually *ibid.*
——— instances of the moon's influence there on deaths . . 624
Chigo, a tropical insect 28, 29
Children, party-coloured one, and twins of different colours 110, 111
Chili, Spaniards frozen to death in crossing the mountains 6
Cholera, bilious remittent, and bilious putrid fever, mistaken for the yellow fever . . . 123

P.
Cinnamon tree introduced in Jamaica 61
Cleghorn on the dysentery 362
Cleopatra died by applying a serpent to her bosom 34
——— her manner of dying related by Galen *ibid.*
Climate, change of, in diseases of the lungs 74, 84, 85, 86
——— in Lues Venerea 77
——— of the West-Indies, a treatise thereon 1
——— cautions respecting it necessary *ibid.*
——— when proper to change it 75
——— great variety of it in England *ibid.*
——— that of England the best altogether in Europe *ibid.*
——— of the West-Indies, its effect on Europeans 113, 114
——— in what cases a change of it is of no use 142
——— its effect in Lues Venereæ 76
Climates, hot, fatal to a mind diseased 141
——— their sudden transitions from heat to cold, &c. 71—73
——— induce to hospitality and pleasure 87
——— children born strong and healthy there 107
Clothing of troops on service not well understood 209
——— in leather recommended 211
Coblentz 218, 554
Cocoon 38
Cod fish, the coldness of their stomachs 35
Coasts and rivers in the West-Indies, of their fish 52
Coffee planters in Jamaica 63
Cold, the time when greatest in every clime 56
——— observations thereon 67, 71
——— spring in Jamaica 62
——— artificial mixture for cooling liquors 93
Colds, how cured by the Indians 72
Cœli mutatio 75
Colica Pictonum—See Belly-ache. 125
Colic, frequently mistaken for the belly-ache *ibid.*
——— bilious, causes thereof 547
——— brought on by the injudicious use of bark *ibid.*
Cologne 544
Columbus, some account of him 17
Consumptions, observations thereon 74—80, 82—86
Contagion in fevers, plague, and dysentery, denied by the author 100, 285
Coral snake 32
Corrosive sublimate, plaster of it 533
Cortez, cause of his conquering Spanish America 173
Costiveness, a great inconvenience at sea 20
Cotopaxi, one of the highest Cordelleras 6
——— the highest mountain of the Andes *ibid.*
Coup de soleil 67
Cow, cured of an hydrophobia by cold water 46
Coya, or Coyba, a venomous insect in Popayan 39
Crab-yaws, how cured 535

Creole women injure their nerves by indolence, and acids 98, 99
—— women and men, their character . . 113, 114
—— women, their temperance, mode of living, and character . . 98, 114
Crewe, Richard, major, his judicious conduct respecting the troops in Jamaica . . . 182, 183
Crises in diseases governed by the moon 572, 584, 589, 590, 593
Critical days disregarded in polar and equatorial regions 293
Cromwell Oliver, his defeat of the Scotch at Dunbar . 217
Culebras de Bejuco 32
Cumberland, earl of, his loss of men at Puerto Rico in 1597 95
Cupping, advice thereon . . 589

D.

Dalling general, his San Juan expedition in 1780 . 147
Dazille, his remarks on doctor Lind . . . 130
Deaths of remarkable persons 625, 626, 627, 621, 629, 630, 631
Degner on the dysentery 359
Delays dangerous in offensive war . . . 215
Desperrieres on the dysentery . . . 393
Desportes, thereon 394
Dettingen 217
Diodorus Siculus, account of the plague at Athens . 422
Dioscorides on the dysentery 305
Diseases undergo revolutions . . . 47
—— armies and navies more liable to them than individuals 95
—— those most formidable in the West-Indies . 124
—— not to be known from books only . . 125
—— books compiled thereon without practice mischievous 130
—— of unqualified writers thereon . . 133—136
—— errors respecting their treatment . 137, 138
—— those of the mind, how affected by hot climates 141
—— the tendency of those incident to spring . 194
—— —— in autumn . . 269
—— the cause of them necessary to be known . 230
—— epidemical, of their causes . 233, 234, 285, 286
—— seldom to be left to nature . . . 292
—— rarely cured by nature in the torrid zone . 294
—— no universal remedy for them . . 402
—— easily to be described by an attentive observer 430
—— seasoning, in the West-Indies . 124, 432, 433
Dog, mad 46
Dress, proper for hot climates . . . 21
Drunkenness, its shocking effects . . . 97
Duretus on the dysentery 326
Dwarris, doctor Fortunatus, a skilful physician , 139
Dysentery, treatise thereon 221
—— the most destructive enemy in military operations 199, 223
—— an account of that in Jamaica in 1780 244—246
—— loss of troops by it under Henry V. at Harfleur 216

P.
Dysentery, the loss of troops under Oliver Cromwell at Dunbar 217
——————— at the battle of Dettingen *ibid.*
——————— under the king of Prussia and duke of Brunswick in Champagne . . . 218
——— its general cause obstructed perspiration . 233
——— remarkable instances of particular causes of it 234, 235, 270, 271
——— camp, in Europe, similar to those in hot climates 259
——— a fever of the intestines, and wherefore 232, 233
——— always increases towards night . . 254
——— part the second, of the treatise thereon . 263
——— of that in Jamaica in 1779 . . 257, 258
——— the troops attacked by it at San Juan . 162
——— people most likely to have it in camps and hospitals 288
——— part the third, of the treatise thereon . 295
——— judged of by many accidental symptoms . 298
——— causes thereof according to Galen, and treatment 308, 313
——— particular cause of its obstinacy . 251
——— a solution of great use therein . . 402
——— of the effects of opium therein . . 255, 256
——————— of coffee 256
——— worms, erroneously considered as symptomatic 379, 391
——— difference thereof . . . 245, 257, 269
——— the cure consists in promoting perspiration 243
——— acids detrimental . . . 285
——— not contagious . . . . *ibid.*
——— causes according to Hippocrates . . 299
——— his practice therein . . . 300
——— treatment, important in the beginning . 400

E.
Earthquakes at Jamaica 15, 59, 265
——— at Port-Royal, Lima, and Lisbon . 574
East-Indies, their discovery 17
East wind in England 73
Eclipses of the moon, their effects . . 592, 594
Emetic tartar, when improper and dangerous . 191, 239, 451
Emprosthotonos, the author denies its existence 480, 481, 482—484, 489
Endemial Causus, treatise thereon . . . 407
——— when to be expected . . 124
——— what diseases confounded with 125, 138, 203
——— why called Maladie de Siam . 408, 410
——————— la Fievre Matelotte 409, 434
——————— Vomito Prieto . . 410
——— its nature described . 411, 429, 430
——— seldom known in the northern parts of Europe 411
——— this appellation given to the disease by the author 412
——— two species thereof, genuine and spurious 414
——— indigenous to the West-Indies . 420
——— fatal in Barbadoes in 1691 . . 421

P.
Endemial Causus, differently denominated by physicians 427
——— reasons why it should be properly named 428
——— yellowness may be symptomatical as well as critical . . . 429, 468
——— subjects most likely to be attacked by it 434
——— of the first symptoms . . 435
——— its progress through its different stages 435—439, 462
——— its metaptosis . . 439, 462
——— appearance after death from dissections 441
——— its treatment . . 443
——— symptoms that are critical . 448, 449, 469
——— emetics prohibited in it . . 450
——— opiates forbidden in it . . 475
——— a remarkable case of it . . 476
Endemial inflammatory fever—see Endemial Causus.
England, its climate compared with others . . 76
——— many persons, oxen, and horses, killed by the sun's rays in 1707 . . . 67
English settlers at Honduras, captured, and inhumanly treated by the Spaniards . . . 157
Entestines perforated . . . 320, 321
Επικυησις . . . 110
Epidemical diseases have one general and immediate cause 233
Epilepsy caused by the moon . . 642
Erastus 457
Essere . . . . 24—26
Etmullerus on the dysentery . . . 354
European animals degenerate in the West-Indies . 113
——— voyage, for health, how to be rendered less necessary 62
Europeans, their health retainable in hot climates . 2
——— best time for their arriving in the West-Indies 11
——— observations as to their health . . 74
——————on their cloathing . . 22
Expedition necessary in military operations in hot climates 178, 209
——— to San Juan, and mortality attending it 163, 164
Eyes, diseases of, increase and decrease with moon 577, 613, 614

F.

Fahrenheit's thermometer 2
Fœcundity, remarkable accounts of it . . 106
Fernelius on the dysentery 323
Fever ardent—see Endemial Causus.
Fever yellow—see Endemial Causus.
Fevers, in what situations most to be apprehended in hot climes 56, 57
——— those the islands are exempt from . 100, 101
——— of malignant and putrid . . 101
——— nervous remittent, the great endemic of Jamaica 47, 101
——— putrid bilious, particularly described . 200

P.
Fevers, opinion of Hippocrates with respect to artificial ones 508
——— opinion of the ancients and moderns thereon . 291
——— none contagious nor with petechial or purple spots 100, 101
Fievre Matelotte—see Endemial Causus.
Fish, abundance in the West-Indies . . 52
—— their digestion not produced by heat or trituration 54
Flannel cloathing, its great use to troops on service 209—211, 255
Floridas no obstacle to the North Americans liberating South America 172
Flux bloody—see Dysentery.
Fontana 41, 44, 45
Forrestus on the Dysentery . . . 323
Fractured skull . . . 498, 499
Frankfort 544
Frezier, his account of Spanish cruelty in the conquest of Peru 175
Funchal, in Madeira, its latitude . . 74

G.

Galen, references to him 25, 30, 34, 40—42, 79, 81, 151, 224, 229, 296, 308, 310, 313, 411, 433, 441, 442, 448, 456, 456. 461, 496, 508, 512
——— on the dysentery 226, 308
——— his opinion of the moon and her influence . 579
Gama, sent from Portugal in 1497, to explore the East . 17
George's St. Key, taken by the Spaniards in 1779 . 157
Gilla 557
Girls having children 104
Glass of antimony, its effects in the dysentery . 250
————————— cerated, when first brought into use 275
————————— common, first used by the author in dysentery . . . 274
————————— and in the yellow fever also . 465
—— common, used in the dysentery . . 316
Goats die from the bite of mad dogs . . . 50
Granada, in Nicaragua, healthful situation . . 161
Gravel, seldom known in tropical countries . 120
——— Europeans subject to it at home, but not in the West Indies . . . . *ibid.*
Greenwich, in Jamaica, an unhealthful place . 56
Grog-drinking, its pernicious effects . . 96
—— made weak, an wholesome beverage . . *ibid.*
Guinea worm 130
Gum arabic tree introduced in Jamaica in 1782 . . 60

H.

Habilla bean, an antidote for the bite of serpents . 38
Hæmorrhages caused by the moon 562, 564, 569, 573, 612, 614, 615, 616, 640
Hæmorrhage, remarkable cases of it . . 562—565

P.

Hæmorrhages from the lungs, a treatise thereon . 561
Hæmorrhous 32, 33
Hail in the West-Indies, but never snow . . 9
Harrington, earl of, his attention to the troops under his command 202
Havannah, loss of English troops there in 1762 by bad water 95
Head-ache, on entering hot climates, its cure . 21
Health, causes of its destruction . . 87, 88, 98
——— general rules for its preservation . 88—92, 124
Heat, observations thereon . . 66, 68, 70, 71
—— its sudden transition to cold the cause of diseases 68—73
—— nearly uniform within the tropics . . 2
—— observations thereon . . 2, 3, 5, 62, 65, 66
Helidæus Padoanus . . . 354
Helmont 281, 593
Hemiplegia from fractured skull . . 501
Henry the Fifth, his victory at Agincourt accounted for 216
Hepatitis 443
Heurnius on the dysentery . . . 323
Hildanus thereon 330
Hillary, of his practice in Barbadoes . . 126
——— on the dysentery . . . 366
Hippocrates, references to him 26, 127, 228, 229, 252, 278, 298—301, 411, 413, 448, 452, 487, 495—497, 507, 510, 525
————— on the dysentery . . 299—301
————— his opinion of the planets . . 572
——————— advice to his son . . *ibid.*
Hodges, attended the plague in London in 1665 . 289
Hoffman deceived respecting serpents in the W. India islands 34
——— on the dysentery . . . 356
Hogs die from the bite of mad dogs . . . 50
Hollerius on the dysentery . . . 324
Honduras Bay, the English there captured by the Spaniards 157
————— carried to Merida and cruelly treated 157, 158, 159, 160
Hooping cough 558
Horse racing attempted in the West-Indies . 16
Horses die from the bite of mad dogs . . . 50
Horsley, Dr. Bishop of St. Asaph, his learned dissertation on the moon . . . 598
Hosier, admiral, his expedition against Porto Bello in 1726 146
Hospitals, troops in those, in the camps at Jamaica in 1780 182
———— on their construction and situation in hot climes 58—60, 184—187
———— moveable ones condemned . . 187
Houses, proper situation of and construction in the West-Indies 55, 58, 59, 89
Hughes, History of Barbadoes . . . 46
Human beings of the W. Indies, compared with those of Europe 113

P.
Hurricanes when likely to happen . . 11
——— how produced 12
——— one in Jamaica in 1780 . . 14, 15
——— visit the West-Indies periodically . 15
Huxham on the dysentery . . . 364
——— his error respecting the belly-ache . 549
Hydroa 25
Hydrophobia 49
Hyspaniola, canine madness there in 1783 . . 48
——— healthful situations for barracks . 63
——— great sickness there, in 1781, 1782, 1783 *ibid.*

I.

Ice, preparation for making it . . 92
Ictus Solis 67
Idiotism uncommon in tropical countries . . 122
Ἱδρωα 23
Imbecility of mind in hot climates . 142, 188—190
Impotency, Carrichterus's remedy . . 288
Incas 178, 179
Indians, their cure for the bite of serpents . 40
——— remedy for a cold, &c. . . 72
——— many nations converted to Christianity by Jesuits 121
——— their great slaughter by the Spaniards 169, 174—176
——— Musquito, their origin, numbers, and characteristics 150, 151
Infection, denied by the author, in the dysentery 286
Influence of the moon . . . 569
——— the doctrine of it promulgated by the author in 1777 . 596, 605, 610
Insanity, commonly called lunacy, almost unknown in tropical countries . . 122
Insects, of the musquitoes . . . 26
——— of the chigoes . . . 28
——— of the coya or coyba . . . 40
Inspruck 526, 545
Intermittent fevers, how to be treated . 196—199
Ipecacuanha, its effects in the dysentery 238, 247, 251, 270, 272
Irving, Dr. his observations on the diseases at San Juan 189—191
——— preserved his health on service by wearing flannel 212

J.

Jack-tree introduced in Jamaica . . 60
Jamaica, a dreadful hurricane there in 1780 . . 14
——— Savannah-la-mer overwhelmed by the sea . 14, 15
——— canine madness broke out there in 1783 . 48—50
——— its coasts and rivers almost free from poisonous fish 52
——— European productions there . . 60
——— the cinnamon, mango, camphire, and other trees brought there in 1782 61
——— observations on its mountains . . 60—65

P.
Jamaica, voyages to England, how to be rendered less necessary 61
——— the troops how to be kept in health there . 63—66
——— the highest land of it, where situated . 70
——— excellent water there . . . 94
——— effects from the want of rain . . 102
——— opinion on bleeding, when the author arrived there 137
——— its advantages with respect to health . 64
——— of the expedition from it against San Juan in 1780 147
——— of the arrival of troops under gen. Garth in 1780 180, 181
——— the gaol distemper brought there from England 180
——— of the troops in the hospitals . . 183
——— of those that returned from San Juan . 188
——— of the autumnal diseases in 1776 . . 194
——— an extraordinary putrid bilious fever . . 200
——— of the bloody flux in 1779 . . 257
——— of the same disease in 1780 . . 244
——— a journal of the weather during the year 1780 265
James's Powder . . 240, 249, 271, 282, 460, 463
Java, prickly heat 25
Jaw-falling, a term for the tetanus in children . 109, 525
Jesuits in Paraguay, their conversion of the Indians . 121
Jews expelled from Spain by Ferdinand the Fifth . 77

K.

Kaye practised in sweating sickness in 1551 without being infected. See Caius . . . 289
Kempfer 41
Kempten 544
Kingston in Jamaica, . 49, 50, 53, 56, 62, 102, 108
——————— its latitude and medium heat 63, 265
——————— an extraordinary sore throat there 263
——————— three years statement of weather there 265—268
——————— mountains at the back of it healthy 62
——————— history and journal of diseases there in 1777 . . 605

L.

Labat Pere 118
Laudanum, when proper for spasms in the stomach or bowels 273
———— its preparation according to Sydenham . 350
Lausanne 72
Lead used to adulterate wines . . . 546
—— white, a pound and half taken . . 550
—— how rendered poisonous 551
Leather, clothing against piercing winds . 211
Leo Africanus 76
———— on the effect of climate in Lues Venereæ 77
Leon in Nicaragua healthful and pleasant . . 161
Leyden 112, 407
Ligatures used to stop the poison of serpents . 41

P.
Ligon, particulars of Yarico related by him . . 29
Liguanea in Jamaica, its mountains healthy . . 63
Lima, air cool and pleasant, the cause thereof . 5
Liver, periodical tumor at the full moon . 607
Locked-Jaw—see Tetanus.
Lommius on the dysentery . . . 417
London bottled porter, its great use in the San Juan expedition 191
Longwy 220
Loubere does not mention the yellow fever, in his history of Siam 410
Lues Venereæ yield to the climate of the W. Indies . 76
——— unknown in Numidia and Libia . 76
——— fatal in Barbary . . . 76
——— yield to change of climate . . 77
Lunula of the nails discovers African's blood . 112
Lusitanus on the dysentery . . . 334

M.

Mad, dog 46
Madeira 74
Madness, canine 46
Mahometism in the northern parts of Guinea . 120
Maladie de Siam, the name given by French writers to the Endemial Causus of the author . . 407
Mal de Mâchoire, the French term for the tetanus in children 525
—— del Valle, or Vicho . . . 531
Mango tree introduced in Jamaica . . 60
Mangostan tree also introduced there . . *ibid.*
Manheim 544
Mania after fevers . . . 188, 189
—— uncommon in tropical countries . . 122
Maracayba in Mexico, of the musquitos there . 27
Marcellus Empiricus on the dysentery, in which he gave glass 315, 316
Maroon negroes, healthy in Jamaica . . 62
Mawhood, capt. an account of his death . 476, 477
Mead, respecting a fluid in the nerves . 43, 621
Medical books concerning the W. Indies, their pernicious effects 125
——— transient visitors, their writings mischievous *ibid.*
Menses, observations and curious facts thereon 102, 103, 104, 573, 578, 612
Metempsychosis, believed in, by some tribes in Africa 18
Mexicans, of their readiness to throw off the Spanish yoke 179
Military operations, a treatise thereon . . 145
——— expeditions, time and season to be considered in them 146
Minorca, prickly heat 24
Mistral wind, the Italian ventro maestro, or N. W. wind 73
Mont Blanc, the highest of the Alps, its summit . 6
Mont Cenis . . . . . *ibid.*
Montezuma murdered by Cortez . . . 179
Montpellier, remarks thereon . . . 67, 84

P.

Monro on the dysentery . . . 391
Moon, its influence on fevers and hæmorrhages 69, 123, 563
—— a treatise on her influence . . 569
—— governs the menstruation of women, and fluor albus 573, 580
—— affects the atmosphere, and bodies of animals 573, 575, 578, 582, 584, 587
—— excites earthquakes and winds . . 573
—— fattens shell fish in her increase 574, 575, 576, 578
—— affects the head and brain 576, 578, 580, 585, 586, 588, 593, 611
—— putrifies dead carcases and flesh 578, 580, 585, 593, 611, 612
—— affects all things animate and inanimate 578, 579, 587, 589
—— causes the epilepsy . . 580, 585, 642
—— ripens fruit . . . 580, 585, 589
—— affects the tides . 579, 601, 602, 603, 604, 632
—— governs crises in fevers . 572, 584, 589, 590, 593
—— increases the violence of pestilential fevers and the plague . . . 592, 595, 611
—— causes syncopes in her eclipse . . 592, 594
—— renders ulcers difficult to cure . 593, 594
—— causes apoplexy . . 606, 608, 615, 617, 640
—— causes palsey . 606, 608, 615, 616, 617, 641
—— affects the liver periodically . . 607
—— instance of a fever under her influence . 609
—— causes periodical hæmorrhage in ulcers, and hæmorrhoidal vessels . . 612, 614
—— or lunatic eyes, or moon blindness . 614
—— affects the eyes and skin periodically in Ægypt 613
—— governs hæmorrhages 562, 564, 569, 573, 612, 614, 615, 616
—— influences the humours and passions 618, 620, 621, 622
—— causes the death of aged people 622, 623, 624, 625, 626, 632
—— influences conception and births . . 633
—— affects asthmatic people . . . 619
—— effects on nervous people . 620, 621, 622
—— pervades the whole terrestrial creation . 622
—— influence in St. Vitus's dance . . 643
—— venerated by the Greeks, Romans, Africans, and ancient Jews . . 645, 646, 647, 648
Moravians, their efforts to instruct negroes in religion 121
Morgan, Sir Henry, the renowned buccaneer . 27, 173
Mountains between the tropics, cold in proportion to their height 5, 6
———— in Jamaica, of their situation with respect to health 60-64
Moxa, burning it on a part for pains, numbness, and palsey 40
Musquito shore Indians, an account of them . 150, 151
———— its boundaries and latitude . 171

P.

Musquitoes, insects, very troublesome in the W. Indies, particularly to new-comers . . 26—28

N.

Nails of people with African blood . . 112
Naples 56, 67, 79
Natives of the W. Indies characterized by the levity of the atmosphere . . . 83
Nature, diseases seldom to be left to her . . 292
——— in the torrid zone rarely effects a cure . 294
Negro children when born, difficult to be distinguished from white children . . . 111
——————— how to be distinguished . 112
Negroes bear fatigue in hot climates . . 163
——— frequently lose their toes by the insect called the chigo 29
——— those on the mountains are hardy and active . 62
——— of their character . . . 115—121
——— of their insensibility of pain . . 492
——— causes of their great depopulation in the colonies 528
Nelson, Lord, his wisdom and bravery on the San Juan expedition . . . 165, 166, 167
Nervous remittent fever in Jamaica . . 47
——————— the great endemic in the W. Indies 47, 101
Nicaragua lake, its situation . . . 156
Nimeguen 256, 359
Normandy 544
Northern tropical summer and winter sub-divided into four periods 9
Nostalgia, its influence in every climate . . 142
Numbness cured by burning Moxa on the part . 40

O.

Obi, or negro witchcraft . . . 526
Obstructed perspiration, the cause of dysenteries 233, 237, 260
Officers, list of those who perished on the San Juan expedition 164
——— attention to the health of soldiers their first object 212
Omoa Fort, taken by the English in 1779 . . . 163
Onions, contrary to every other vegetable, increases as the moon decreases . . . 576
——— not eaten by the inhabitants of Pelusium in Ægypt *ibid.*
Opiates, considered with respect to dysenteries 248, 249, 255—258, 283
——————————— the endemial causus 474, 475
Opistohtonus . 480, 482, 485—490, 496, 497, 504, 505
—————— instance of it in a negro . . 488
Oribasius on the dysentery . . . 313
Ormus, the troops attacked with the dysentery there in 1622 from bad water . . . 95
Ovid's Metamorphoses . . . 517

Pains,

P.

P.

Pains, obstinate and fixed, removed by burning moxa on them 40
Palsey caused by the moon . 606, 608, 615, 618, 641
Papulæ sudoris . . . . . 24—26
Paraguay, the Indians converted by the Jesuits . 121
Pariacaca, deadly passage of . . . 7, 8
Paris 235
Parturition in hot climates favourable . . 107
Patients should be seen, if possible, when first attacked 205
Patriarchs, anxious about their bones . . 17
Paul Ægineta, on the dysentery . . 316
Pekin, 11000 persons killed there by the sun's rays in 1743 67
Penzance, in Cornwall, its mildness . . 75
Peregrinatio 85
Perspiration, consequences of its sudden suppression 186, 236
——— obstructed, cause of the dysentery . 233
——— the consequences arising from it . . 235
——— the amount of it in health . . 236
——— observations thereon . 250, 251, 272, 277—282
Peru, rains unknown on the coast . . 154
—— dreadful effects of its conquest by the Spaniards 174—176
—— its Inca Atabalipa murdered by Pizarro . 178
Peruvians, of their readiness to throw off the Spanish yoke 179
Philadelphia 67
Phipps, major Henry, his care of the 85th regiment . 208
Φλυκταιναι . . . 26
Physician, his importance in an army . 215. 220
Pidgeley, Mrs. stung by a Scorpion . . 31
Piebald children, one produced by a black woman in Jamaica 110
Piedmont 525
Pinchinca, one of the highest Cordelleras . . 6
Piso on the dysentery 340
Pisselæum Barbadense . . . . 519—521
Plague, extraordinary instances of it, not spread by contagion 287—290
——— of that at Athens, reported by Diodorus Siculus 422
——— rages most at the change and full of the moon 592, 595
Planets, their probable influence in epidemic diseases . 286
——— their effects . . 583, 634, 635
Platerus Felix on the dysentery . . 330
——— prolific account of his father and grandfather 106
Pleurothotonus 490, 491
Pliny, his opinion of the moon and her influence . 576
——— says the fibres in the livers of rats and mice answer to the moon's age . . . 577
Poison, on its effects . . 30, 31, 33, 34, 38—45
———, animal communicated by the slightest scratch . 40
Polypus 45
Pontini fens 56
Porter, London, bottled, its great use at San Juan . 191
Porto Bello, the expedition against it, under Hosier 146, 147

P.

Port Louis, nearly depopulated by the dysentery from bad water 95
Pregnancy, extraordinary instances thereof 103—106
Prickly heat of the West-Indies 23—26
Prince, African, at the French court 117, 118
Pringle on the dysentery 252
Priscian thereon 318
Prolific examples—See fœcundity.
Protestant Hospital in St. Luke's, deaths there 624
Prussia, king of, his expedition against France in 1792 218
Ptolemy, his opinion of the nature of the moon and influence 579
Ptyas, a serpent, said to produce a pleasant death 34
Puerto Rico, loss of troops there in 1597 by brackish water 95
Pulmonic dangerous diseases not common in tropical countries 122
Putrid bilious fever, an extraordinary one in Jamaica 200—204

Q.

Quito 6

R.

Rain, periodical in tropical countries 1, 146, 153, 154, 162, 168
—— the scourge of health in hot countries, its salvation in others 11
Rats and mice, the fibres of their livers increase with the moon 575, 577
Rattle snake 32
Reader, Mr. of Jamaica, cured of a dangerous hæmorrhage 562
Reaumur's thermometer 2, 62, 265
Religion, its political advantages in colonial reformation 121
Remedies, violent ones censured 283, 464
Revulsion, instance of its power in the dysentery 251
Rhubarb, first mentioned by writers 320
River San Juan, an account of it 148, 152, 153
Riverius on the dysentery 337
Rock-fort in Jamaica 183
Rome 11, 56, 67, 71, 79
Ross, Hercules, Esq. his public spirit 149
Rum, its destructive qualities when drunk to excess 96
—— wholesome when used moderately 97

S.

San Juan expedition 147
———— river, its situation and description 148, 152—154
———— castle taken by the expedition from Jamaica 156
———————— retaken by the Spaniards 162
———————— officers and men lost in the expedition against it 164
———————— reflections relative to that expedition 168
———————— dreadful fate of those who went on that expedition 188, 189, 611
Sarrette, a disease analogous to the tetanus, where prevalent 525
Savannah-la-mer, overwhelmed by the sea 14

P.
Savoy 525
Scorpions . . 29, 30, 31, 45
Scurvy, seldom known in tropical countries . 123
Sea air, and voyages in pulmonic diseases . 79, 82
——— observations thereon . . 74, 82, 83
Sea breeze . . 9, 186, 244, 245
Sea sickness . . . 18, 20, 83
Seasoning, first illness new-comers are attacked with in the West-Indies . . . 124, 432
——— of troops in the W. Indies . . 64, 65
Sennertus on the dysentery , . 334, 399
Septalius thereon . . . 328
Septenaries, their power . 572, 582, 583, 584, 588
Serpents, of those in Spanish America, and in the islands 32, 34, 35
——— a soldier bitten by one and died . 34
——— treatment of their bites . . 36—38
——— Indian method of treatment . . 38—40
Sharks in the W. Indies, on the coasts, and in harbours 52—54
——— a young man killed by one . . 53
Sirocco a S. E. by S. wind . . . 73
Skies, their extraordinary brilliancy in the West-Indies 88
Small-pox fever, its nature and tendency . . 242
Snake-root, observations thereon . . 191, 237
Snakes, of those in the West-Indian islands . 35
Snipes in great numbers in the West-Indies . . 16
Solutio Vitriolica—See Vitriolic Solution.
South Carolina, great heat and effects of the sun there 2, 67
Spaniards, of their dreadful ravages . 34, 169, 174, 177
——— live to great age in St. Domingo , . 96
——— reflections on their conquest of S. America 169, 173, 174
——— their cruelty to the English captured at Honduras 157
——————— to the Indians . 169, 173
——— great mortality in crossing the desart of Chili 7
Spanish boy, lived on horse-flesh in the desart of Chili . 7
——— main, English territories there . . 171
——— town, in Jamaica , . 23, 108, 110
Spiders 29
St. Paul's church 6
Stabia 79
Stone in the bladder, scarcely known in tropica countries 123
——— an instance of one being dissolved by change of climate *ibid.*
Stoney Hill in Jamaica . . . 64
Strasbourgh 67, 544
Sudamina . . . . 23—26
Sudorifics, their use in the dysentery first discovered by the author . . . 221, 222
Sugar colonies, their importance with respect to commerce 18
——— of lead . . . 353, 503, 545
Summer season within the tropics . . 4, 9
Superfœtation, a curious instance of it . 111

P.
Sweat in the West-Indies smells acid . . 99
Switzerland 525
Sydenham, references to him 189, 198, 229, 230, 232, 279, 285
330, 347, 378, 381—383
——— on the dysentery . . 229, 347
Sylvius thereon 343

T.

Tabiæ—See Stabia . . . 79
Tapioca 342
Tarantula 29
Temperance, its great virtues . . . 88
Tempests, tremendous in tropical countries . . 153
Tenesmus . . . 343, 348, 352
——— its cure . . . 404
Terracina 56
Tetanus, a treatise thereon . . . 479
——— of its different species . . 480
——— several remarkable instances of it 488, 499, 501—503
——— the opisthotonus, the extreme degree of it . 490
——— a disease of irritability . . 492
——— every species of animal subject to it . . . 494
——— the obvius causes of it . . . *ibid.*
——— four cases related by Hippocrates . 496, 497
——— of the prevention of it . . 505—507
——— method of treatment by Hippocrates . 508, 509
——— affusion of cold water, the best remedy . 510
——— the practice of the Spanish physicians . 515
——— mode of treatment used by the negroes . 516
——— corallaria thereon . . . 521, 522
——— endemial among children in many places . 523
——— of its cause and prevention among negro children 526-528
——— of the great numbers of negro children who perish by it 551
Thames, a great flood of it instanced . 634, 635
Thermometer . 2, 3, 6, 60, 62, 69, 70, 71, 72, 74, 80
Tide turning people are affected and die . 577, 632, 633
——— remarkable one of the Thames . . 632
Tides, the moon's influence on, and their nature 602, 603, 604, 632
Tiger, a soldier attacked by one . . 160, 161
Time of the year to go to the West Indies . 11
——— for sending troops, and military operations *ibid.*
Tipioca—See Tapioca 342
Tirol 525, 545
Tissot, a physian of candour and liberality . . 72
——— on the dysentery . . . 367
Tomogos serpent 33
Torrid zone, cautions and precepts for health . 1
Torti, his administration of bark . . . 195
Towne, respecting his practice in Barbadoes . . 126
Trade winds comprize about 30 degrees of S. and N. latitude 9

P.
Trallianus on the dysentery 317
Tramontana wind, a N. N. E. wind 73
Trent 544
Trismus Nascentium, a bad term for the tetanus in children 525
Troops in Jamaica on 1st January, 1803, their stations and number 66
—— remarks on the health and seasoning of troops 55, 63—66, 145, 182, 184, 211—213
—— instances of great mortality from the use of bad water 95
—— their immoderate use of rum 96, 97
—— mortality amongst those on the San Juan expedition 162
—— the proper hospitals for them 184
—— of their clothing, care, and discipline 182, 209, 212, 213
—— mortality of those under Vernon and Wentworth 210
—— the great use of flannel to them when on service *ibid.*
—— many lost during the war by bad wines 285
Tropical countries, of the medium and different degrees of heat 2, 3
———— of their winter and summer 4, 9
———— mountains, cold in proportion to their height 5

U.

Ulcerated sore throat, among children in Jamaica in 1780 265
Ulceration, the effect and not the cause of dysenteries 228
Ulloa 6, 33, 37, 47
Up-Park 610
—— camp and barracks in Jamaica 181, 183, 187, 200, 207
Urine, a suppression of it in the flux 256
Vagina, excrements voided there from perforation 320, 321
Veneceæ Lues, yield to change of climate 76
Verdun 219
Venice 49, 67
Vento Maestro 73
Vernon, admiral, his expedition against Carthagena in 1741 146, 210
Vessels should be copper bottomed in hot climates 165
Vesuvius, particulars thereof by Galen, and the author 80, 81
Viper, the fatal effects of its bite prevented 40
Virgil's incantations affect the moon 640
Virginia 67
Viterbo 545
Vitriol, white, its use revived and defended 557, 559
Vitriolic solution 272, 402, 557—560, 563, 566
———— a treatise thereon 557
Vitrum Antimonii 239, 250, 270, 273—276
Vitus's St. dance 645
Vomito Prieto—See Endemial Causus.
Voyages at sea, whence their benefit 62, 82, 83

P.

W.

Wafer, his account of the cruelty of the Spaniards 174
Water, the most wholesome beverage in hot climates 91
——— springs of sulphurous and chalybeate, in Jamaica 94
——— what kind best for the common purposes of life *ibid.*
——— mischievous effects from its use when impure . 95
——— excellent in Jamaica, and its importance . 94, 95
Weather, journal of it in Jamaica during the year 1780 265
Wentworth, general, mortality of the troops under him 146, 210
West-Indies, their discovery . . . 17
———— division of the summer and winter seasons 4
———— different degrees of heat between the seasons *ibid.*
———— the mountains cold in proportion to their height 5
———— the eastern breezes influenced by the sun 9
———— the trade winds . . . *ibid.*
———— their northern tropical winter and summer *ibid.*
———— the season when Europeans should arrive there 11
———— their rains and general state of weather . *ibid.*
———— season best for military operations there *ibid.*
———— when to avoid being on the sea in visiting them *ibid.*
———— time their hurricanes set in . *ibid.*
———— the nature and effects of their hurricanes described 12, 13
———— an account of the dreadful hurricane in 1780 14—15
———— no enjoyment there in the sports of the field 15
———— temperance and attention to dress necessary for new-comers . . 21
———— of the eruptions called the prickly heat 22—25
———— effects of the sun on new-comers 26, 66, 87, 89, 433
———— of the musquitoes . . 26—28
———— of the insect called the chigo . 28, 29
———— of their insects, &c. in general . 29
———— no tigers, lions, bears, wolves, nor venomous serpents in the islands . . 32
———— of the various snakes there . . 35
———— canine madness, never there till lately 46, 47
———— alligators and sharks, where found . 52
———— instance of a negro woman killed by an alligator *ibid.*
—————— of a young man killed by a shark 53
———— what situation, for a dwelling there, best 55, 56
———— what construction of an house best . 58
———— their mountainous situations very healthful 60—65
———— why Europeans are liable to diseases there 68
———— means of preventing diseases among new-comers 88, 89
———— cold bathing, by whom to be avoided . 90
———— the effects of the climate on Europeans . 114
———— of the present resident practitioners there 137
———— what part has borne the palm of medical literature 139
———— the natives compared to those born in Europe 113

West-

P.
West-Indies, seasoning, to new-comers, why so called 124, 432
——— the negroes, born there, superior in intellects to the Africans 115
White children, may be produced from black parents 110
——— lead given in the gout by an empiric 549
——— vitriol, gilla, and salt of vitriol 557—559
Williams, a physician, killed in a duel at Jamaica 138
Willis on the dysentery 344
——— reports a curious case of spasm 482
Winds, deadly in the mountains of Peru 7, 8, 211
——— various, and from frozen mountains pernicious 72, 73, 74
Winter season within the tropics 4, 9
Women, of disorders peculiar to them in hot climates 102
——— in hot climates soon recover from lying-in 108
Worms, erroneously considered as a dysenteric symptom 379, 391
Worsley, Sir Richard, his learned and magnificent work 613

Y.

Yellow fever—See Endemial Causus.
——— snake of the West-Indies 35

Z.

Zimmerman on the dysentery 397
Zone, torrid, diseases seldom cured by nature alone in it 294

FINIS

Nichols *and* Son, *Printers,*
Red Lion Passage, Fleet-street.